GC Biopharma Corp. and its Subsidiaries

Consolidated Financial Statements

December 31, 2022 and 2021

(With Independent Auditors' Report Thereon)

Contents

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Independent Auditors' Report

Based on a report originally issued in Korean

To the Board of Directors and Shareholders of GC Biopharma Corp.

Opinion

We have audited the consolidated financial statements of GC Biopharma Corp. and its subsidiaries ("the Group"), which comprise the consolidated statements of financial position as of December 31, 2022 and 2021, and the consolidated statements of comprehensive income, changes in equity and cash flows for the years then ended, and notes to the consolidated financial statements, comprising significant accounting policies and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2022 and 2021, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("K-IFRS").

Basis for Opinion

We conducted our audits in accordance with Korean Standards on Auditing ("KSAs"). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matter

Key audit matter is that matter that, in our professional judgment, was of most significance in our audit of the consolidated financial statements as of and for the year ended December 31, 2022. This matter was addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on this matter.

Finished Goods / Merchandise Sales Occurrence and Accuracy

As described in Note 24 to the consolidated financial statements, the Group sells finished goods and merchandise, and sales of finished goods and merchandise recognized for the reporting period ending December 31, 2022 amounted to KRW 1,456,908 million. Finished goods and merchandise sales are generated through various sales channels, and the Group has a wide customer base that makes individually small purchases, so there is a potential risk that the existence and amount of revenue may not be accurate. Therefore, considering the possibility of errors in occurrence and accuracy of the sales of finished goods and merchandise of the Group and the amount, we identified this matter as a key audit matter.

The primary procedures we performed to address this key audit matter included the following:

- Understanding and assessing accounting policies of the Group regarding recognition in revenue from finished goods and merchandise sales.
- Understanding the process and testing the design and operating effectiveness of controls over finished goods and merchandise sales.
- For selected samples, inspecting the documents to assess the occurrence of finished goods and merchandise sales and the accuracy of the sales amount

Other Matter

The procedures and practices utilized in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with K-IFRS and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KSAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors' report is Joo-Young, Lee.

KPMG Samjong Accounting Corp.

Seoul, Korea
March 21, 2023

This report is effective as of March 21, 2023, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

GC Biopharma Corp. and its subsidiaries
Consolidated Statements of Financial Position
as of December 31, 2022 and 2021

(In Korean won)

	Notes		2022		2021
Assets					
Current assets:					
Cash and cash equivalents	4,34,35	₩	105,365,807,601	₩	186,060,276,974
Trade and other receivables, net	5,33,34,35		413,905,669,799		424,757,996,240
Current financial assets	6,34,35		6,940,109,007		16,874,815,000
Inventories, net	7		442,408,247,727		454,976,365,250
Derivative assets	17,35		2,281,105,112		-
Other current assets	12		9,535,569,490		7,850,000,283
Assets held for sales	8,37		1,380,139		5,101,380,139
Total current assets			980,437,888,875		1,095,620,833,886
Non-current assets:					
Long-term trade and other receivables, net	5,33,34,35		31,046,534,088		25,490,131,168
Non-current financial assets	6,31,33,34,35		36,383,796,753		28,062,818,886
Investments in associates and joint ventures	8,30		179,889,389,151		82,899,357,859
Property, plant and equipment, net	9,31		822,392,573,744		799,071,839,749
Right of use assets, net	36		108,429,830,104		100,775,541,586
Intangible assets, net	10		311,563,217,852		277,405,845,186
Investment property, net	11		14,062,288,200		19,729,998,120
Net defined benefit assets	16		10,124,720,362		9,142,124,450
Other non-current assets	12		3,368,199,713		4,114,173,723
Deferred tax assets	29		27,838,642,427		19,832,067,587
Total non-current assets			1,545,099,192,394		1,366,523,898,314
Total assets		**₩**	**2,525,537,081,269**	**₩**	**2,462,144,732,200**

(Continued)

GC Biopharma Corp. and its subsidiaries
Consolidated Statements of Financial Position, Continued
as of December 31, 2022 and 2021

(In Korean won)

	Notes		2022		2021
Liabilities					
Current liabilities:					
Trade and other payables	13,33,34,35	₩	244,021,008,377	₩	220,646,920,393
Short-term borrowings	14,31,34,35		187,416,000,000		225,374,774,302
Current tax liabilities			17,157,746,217		28,338,018,560
Derivative liabilities	17,35		21,522,099,926		5,253,035,294
Short-term lease liabilities	33,34,35,36		11,579,805,802		9,886,733,953
Current provisions	15		30,915,539,435		28,870,582,838
Other current liabilities	12,33,34,35		28,126,247,547		34,512,797,800
Total current liabilities			540,738,447,304		552,882,863,140
Non-current liabilities:					
Long-term trade and other payables	13,33,34,35		14,998,102,409		8,036,695,301
Long-term borrowings	14,34,35		278,796,832,948		280,343,368,637
Defined benefit liabilities	16		1,171,189,595		1,496,871,782
Long-term lease liabilities	33,34,35,36		97,750,592,720		90,968,793,640
Deferred tax liabilities	29		1,357,816,584		1,869,376,643
Non-current provisions	15		1,389,144,634		2,200,085,473
Other non-current liabilities	12,33,34,35		22,693,023,986		24,589,659,945
Total non-current liabilities			418,156,702,876		409,504,851,421
Total liabilities			**958,895,150,180**		**962,387,714,561**
Equity					
Issued capital	1,18		58,432,690,000		58,432,690,000
Share premium	19		393,530,652,598		385,821,212,250
Other components of equity	20		(35,701,766,555)		(35,701,766,555)
Accumulated other comprehensive income (loss)	21		8,393,732,412		(1,134,263,818)
Retained earnings	22		903,467,120,918		867,352,641,805
Equity attributable to the owners of the parent			**1,328,122,429,373**		**1,274,770,513,682**
Non-controlling interests	1		**238,519,501,716**		**224,986,503,957**
Total equity			**1,566,641,931,089**		**1,499,757,017,639**
Total liabilities and equity		₩	**2,525,537,081,269**	₩	**2,462,144,732,200**

The accompanying notes are an integral part of the consolidated financial statements.

GC Biopharma Corp. and its subsidiaries
Consolidated Statements of Comprehensive Income
for the years ended December 31, 2022 and 2021

(In Korean won)

	Notes		2022		2021
Sales	3,24,33	₩	1,711,312,739,533	₩	1,537,825,750,251
Cost of sales	24,28,33		1,129,508,276,275		1,017,232,478,298
Gross profit			**581,804,463,258**		**520,593,271,953**
Selling and administrative expenses	25,28,33		500,540,797,415		446,931,651,174
Operating profit			**81,263,665,843**		**73,661,620,779**
Other income	26,33		59,293,273,496		24,279,266,095
Other expenses	26,33		24,679,769,055		7,835,644,635
Finance income	27,33		15,418,918,008		21,080,234,027
Finance costs	27		27,469,690,983		20,159,240,230
Share of profit (loss) of associates	8		(18,098,537,376)		81,533,049,860
Profit before tax			**85,727,859,933**		**172,559,285,896**
Income tax expense	29		16,313,075,349		35,609,406,655
Profit for the year		₩	**69,414,784,584**	₩	**136,949,879,241**

(Continued)

GC Biopharma Corp. and its subsidiaries
Consolidated Statements of Comprehensive Income, Continued
for the years ended December 31, 2022 and 2021
(In Korean won)

	Notes		2022		2021
Other comprehensive income :					
Other comprehensive income to be reclassified to profit or loss in subsequent periods (net of tax):					
Share of other comprehensive income (loss) of associates		₩	8,534,337,244	₩	(778,602,922)
Foreign currency translation of foreign operations			9,013,853,573		(670,180,369)
Other comprehensive income not to be reclassified to profit or loss in subsequent periods (net of tax):					
Re-measurement loss on defined benefit plans	16		(4,154,555,347)		(1,057,517,623)
Fair value gain on financial assets at FVOCI			787,887,128		4,837,535,575
Share of other comprehensive income of associates			-		47,158,318
Other comprehensive income for the year, net of tax			**14,181,522,598**		**2,378,392,979**
Total comprehensive income for the year, net of tax		₩	**83,596,307,182**	₩	**139,328,272,220**
Profit for the year attributable to:					
Equity holders of the parent		₩	65,453,133,859	₩	123,211,805,902
Non-controlling interests			3,961,650,725		13,738,073,339
		₩	**69,414,784,584**	₩	**136,949,879,241**
Total comprehensive income for the year attributable to:					
Equity holders of the parent		₩	74,664,262,429	₩	124,597,894,896
Non-controlling interests			8,932,044,753		14,730,377,324
		₩	**83,596,307,182**	₩	**139,328,272,220**
Earnings per share:					
Basic and diluted, profitfor the year attributable to ordinary equity holders of the parent	23	₩	5,735	₩	10,796

The accompanying notes are an integral part of the consolidated financial statements.

GC Biopharma Corp. and its subsidiaries
Consolidated Statements of Changes in Equity
for the years ended December 31, 2022 and 2021
(In Korean won)

	Attributable to the equity holders of the parent							
	Issued capital	**Share premium**	**Other components of equity**	**Accumulated other comprehensive income (loss)**	**Retained earnings**	**Sub-total**	**Non-controlling interests**	**Total equity**
As of January 1, 2021	**₩ 58,432,690,000**	**₩ 337,016,314,693**	**₩ (35,701,766,555)**	**₩ 1,498,031,522**	**₩ 757,278,400,884**	**₩ 1,118,523,670,544**	**₩ 150,782,072,960**	**₩ 1,269,305,743,504**
Profit for the year	-	-	-	-	123,211,805,902	123,211,805,902	13,738,073,339	136,949,879,241
Fair value gain on financial assets at FVOCI	-	-	-	4,837,535,575	-	4,837,535,575	-	4,837,535,575
Gain (loss) on disposal of financial assets at FVOCI	-	-	-	(6,000,629,569)	6,000,629,569	-	-	-
Share of other comprehensive income (loss) of associates	-	-	-	(778,602,922)	47,158,318	(731,444,604)	-	(731,444,604)
Foreign currency translation of foreign operations	-	-	-	(690,598,424)	-	(690,598,424)	20,418,055	(670,180,369)
Re-measurement gain (loss) on defined benefit plans	-	-	-	-	(2,029,403,553)	(2,029,403,553)	971,885,930	(1,057,517,623)
Total comprehensive income (loss) for the year	**-**	**-**	**-**	**(2,632,295,340)**	**127,230,190,236**	**124,597,894,896**	**14,730,377,324**	**139,328,272,220**
Dividends	-	-	-	-	(17,119,767,000)	(17,119,767,000)	(1,391,306,700)	(18,511,073,700)
Differential dividends in subsidiaries	-	(24,204,082)	-	-	-	(24,204,082)	24,204,082	-
Increased paid in capital of subsidiaries	-	12,159,868,851	-	-	-	12,159,868,851	23,786,203,767	35,946,072,618
Acquisition of subsidiaries	-	52,962,647,199	-	-	-	52,962,647,199	63,336,854,726	116,299,501,925
Equity adjustments in subsidiaries	-	(16,293,414,411)	-	-	(36,182,315)	(16,329,596,726)	(26,281,902,202)	(42,611,498,928)
Total transactions with owners of the parent	**-**	**48,804,897,557**	**-**	**-**	**(17,155,949,315)**	**31,648,948,242**	**59,474,053,673**	**91,123,001,915**
As of December 31, 2021	**₩ 58,432,690,000**	**₩ 385,821,212,250**	**₩ (35,701,766,555)**	**₩ (1,134,263,818)**	**₩ 867,352,641,805**	**₩ 1,274,770,513,682**	**₩ 224,986,503,957**	**₩ 1,499,757,017,639**
As of January 1, 2022	**₩ 58,432,690,000**	**₩ 385,821,212,250**	**₩ (35,701,766,555)**	**₩ (1,134,263,818)**	**₩ 867,352,641,805**	**₩ 1,274,770,513,682**	**₩ 224,986,503,957**	**₩ 1,499,757,017,639**
Profit for the year	-	-	-	-	65,453,133,859	65,453,133,859	3,961,650,725	69,414,784,584
Fair value gain on financial assets at FVOCI	-	-	-	1,024,279,779	-	1,024,279,779	(236,392,651)	787,887,128
Share of other comprehensive income of associates	-	-	-	8,534,337,244	-	8,534,337,244	-	8,534,337,244
Foreign currency translation of foreign operations	-	-	-	6,164,810,293	-	6,164,810,293	2,849,043,280	9,013,853,573
Re-measurement gain (loss) on defined benefit plans	-	-	-	-	(6,512,298,746)	(6,512,298,746)	2,357,743,399	(4,154,555,347)
Total comprehensive income for the year	**-**	**-**	**-**	**15,723,427,316**	**58,940,835,113**	**74,664,262,429**	**8,932,044,753**	**83,596,307,182**
Dividends	-	-	-	-	(22,826,356,000)	(22,826,356,000)	(1,158,762,080)	(23,985,118,080)
Differential dividends in subsidiaries	-	(24,204,082)	-	-	-	(24,204,082)	24,204,082	-
Increased paid in capital of subsidiaries	-	5,276,444,866	-	-	-	5,276,444,866	36,652,497,489	41,928,942,355
Disposal of subsidiaries	-	2,457,959	-	(6,195,431,086)	-	(6,192,973,127)	(40,210,691,230)	(46,403,664,357)
Equity adjustments in subsidiaries	-	2,454,741,605	-	-	-	2,454,741,605	9,293,704,745	11,748,446,350
Total transactions with owners of the parent	-	7,709,440,348	-	(6,195,431,086)	(22,826,356,000)	(21,312,346,738)	4,600,953,006	(16,711,393,732)
As of December 31, 2022	**₩ 58,432,690,000**	**₩ 393,530,652,598**	**₩ (35,701,766,555)**	**₩ 8,393,732,412**	**₩ 903,467,120,918**	**₩ 1,328,122,429,373**	**₩ 238,519,501,716**	**₩ 1,566,641,931,089**

The accompanying notes are an integral part of the consolidated financial statements.

GC Biopharma Corp. and its subsidiaries
Consolidated Statements of Cash Flows
for the years ended December 31, 2022 and 2021

(In Korean won)

	Notes		2022		2021
Operating activities					
Cash flows from operating activities	32	₩	172,852,992,115	₩	152,599,879,645
Interest received			2,710,387,501		400,529,636
Dividends received			318,196,933		5,391,240,036
Interest paid			(19,377,852,992)		(13,546,027,811)
Income taxes paid			(37,349,412,668)		(18,866,672,628)
Net cash flows provided by operating activities			**119,154,310,889**		**125,978,948,878**
Investing activities					
Proceeds from disposal of financial assets at AC			22,056,368,761		22,064,922,993
Proceeds from disposal of financial assets at FVPL			27,876,016,190		14,947,182,492
Proceeds from disposal of financial assets at FVOCI			-		11,342,904,350
Decrease in leasehold deposits			3,938,761,800		-
Proceeds from disposal of investments in associates			150,839,067		5,500,000,000
Proceeds from disposal of property, plant and equipment			1,539,500,007		565,209,144
Proceeds from disposal of intangible assets			-		74,374,091
Proceeds from disposal of assets held for sales			5,100,000,000		8,325,545,312
Increase in loan			(6,000,000,000)		(545,843,717)
Decrease in loan			-		50,000,000
Acquisition of financial assets at AC			(13,991,477,768)		(3,500,000,000)
Acquisition of financial assets at FVPL			(34,017,244,447)		(2,315,798,548)
Acquisition of investments in associates			(33,406,699,890)		(78,773,190,604)
Acquisition of property, plant and equipment			(57,996,103,116)		(102,321,206,487)
Acquisition of intangible assets			(36,694,136,948)		(21,217,485,588)
Increase in leasehold deposits			(9,762,460,614)		-
Foreign exchange forward contract			-		1,807,870,025
Merger with subsidiaries			-		11,918,091,179
Proceeds from disposal of investments in subsidiaries			(74,052,669,710)		-
Net cash flows used in investing activities			**(205,259,306,668)**		**(132,077,425,358)**
Financing activities					
Increase in short-term borrowings			806,151,000,000		869,500,010,562
Increase in long-term borrowings			608,000,000		209,429,260,000
Issuance of convertible bonds			30,000,000,000		-
Equity adjustments in subsidiaries			146,100,000		(42,611,498,928)
Increased paid in capital of subsidiaries			41,928,942,355		35,946,072,618
Repayment of short-term borrowings			(721,740,000,000)		(992,600,010,562)
Repayment of current portion of long-term borrowings			(123,172,000,000)		(90,587,000,000)
Repayment of long-term borrowings			-		(5,000,000,000)
Repayment of convertible bonds			(3,800,643,126)		-
Repayment of lease liabilities			(8,616,861,060)		(6,836,088,739)
Payment of dividends			(23,985,080,850)		(18,511,073,700)
Net cash flows used in financing activities			**(2,480,542,681)**		**(41,270,328,749)**
Net decrease in cash and cash equivalents			(88,585,538,460)		(47,368,805,229)
Cash and cash equivalents at January 1			186,060,276,974		232,288,414,078
Effect of movements in exchange rates on cash held			7,891,069,087		1,140,668,125
Cash and cash equivalents at December 31		₩	**105,365,807,601**	₩	**186,060,276,974**

The accompanying notes are an integral part of the consolidated financial statements.

1. Organization and business

1-1 The General

GC Biopharma Corp. (formerly, Green Cross Corporation) ("the Company"), located at 107, Ihyeon-ro 30 beon-gil, Giheung-gu, Yongin, Gyeonggi province, was incorporated on November 1, 1969, and is engaged in the manufacture and sale of pharmaceutical products.

On August 1, 1989, the Company was listed on the Korea Exchange. As of December 31, 2022, the Company issued capital of ₩58,433 million, which accounts for 51.41% of the total issued capital, is owned GC Corp. (formerly, Green Cross Holdings Corporation), the major shareholder of the Company (including the shares of other related parties).

The consolidated financial statements comprise the Company and its subsidiaries (together referred to as "the Group") and the Group's interests in associates.

1-2 Consolidated subsidiaries

Details of subsidiaries as of December 31, 2022 and 2021 are as follows:

Subsidiary	Principal activity	Parent company	Ownership (%) 2022	2021	Location
GC Medical Science Co., Ltd. (formerly, Green Cross Medical Science Co., Ltd.) (*1)(*2)	Manufacture and sale of pharmaceuticals	GC Biopharma Corp.	41.58	41.61	Korea
GC Wellbeing Co., Ltd. (formerly, Green Cross Wellbeing Co., Ltd.) (*1)(*3)(*4)(*8)	Manufacture and sale of pharmaceuticals	GC Biopharma Corp.	22.14	22.20	Korea
GC CELL CORPORATION (*1)	Blood diagnostics	GC Biopharma Corp.	35.01	35.01	Korea
Lymphotec, Inc. (*4)	Manufacture and sale of pharmaceuticals	GC CELL CORPORATION	83.27	83.27	Japan
Novacel, Inc. (*4)	Manufacture of pharmaceuticals	GC CELL CORPORATION	100.00	100.00	America
Invac Farm Corp	Farming	GC Biopharma Corp.	89.98	89.98	Korea
GC Genome Corporation (*1)(*3)(*4)(*5)(*6)	Genetic analysis	GC Biopharma Corp.	25.79	29.22	Korea
GC Medis Corp. (formerly, Green Cross Medis Corp.) (*4)	Manufacture of intravenous glucose monitoring devices	GC Medical Science Co., Ltd.	98.26	98.26	Korea
GCCL Co., Ltd. (*4)	Clinical trial	GC CELL CORPORATION	65.45	67.02	Korea
Green Vet (*7)	Healthcare service for pet	GC CELL CORPORATION	-	62.61	Korea
Curevo, Inc. (*9)	Research of pharmaceuticals	GC Biopharma Corp.	-	47.95	America
GC DO BRASIL PARTICIPACOES LTDA.	Service	GC Biopharma Corp.	99.99	99.99	Brazil
GC BIOPHARMA USA, Inc. (*10)	Sale of pharmaceuticals	GC Biopharma Corp.	100.00	100.00	America

1. Organization and business (cont'd)

1-2 Consolidated subsidiaries (cont'd)

(*1) These entities are listed as subsidiaries even though the Company's equity ownership is less than 50% of each entity, as it is the largest shareholder and has influence over operational and financial decisions of each of the entities.

(*2) The Group's equity interest is changed due to the disposal of the treasury stock held by GC Medical Science Co., Ltd. for the year ended December 31, 2022.

(*3) According to the proxy agreement with GC Corp., major shareholder of the company, delegated voting rights to the Company are 12.39% of GC Wellbeing Co., Ltd and 12.44% of GC Genome Co., Ltd respectively.

(*4) Equity ownership represents total investment held by the Group.

(*5) The entity's name changed from Green Cross Genome Co. Ltd., to GC Genome Corporation for the year ended December 31, 2022.

(*6) The Group's equity ownership is changed due to the partial conversion of convertible bond for the year ended December 31, 2022.

(*7) The entity is excluded from subsidiaries due to the disposal of all equity interest for the year ended December 31, 2022.

(*8) The Group's equity ownership is changed due to the partial disposal of equity interest for the year ended December 31, 2022.

(*9) The entity is transferred to investments in associate of the Group due to a loss of the Group's control on its entity as the Group's equity ownership is changed through the differential increasing paid in capital for the year ended December 31, 2022.

(*10) The Group acquires equity interests of the entity additionally and the entity's name changed from GC MOGAM, Inc. to GC BIOPHARMA USA, Inc. for the year ended December 31, 2022.

1. Organization and business (cont'd)

1-3 Condensed financial information of consolidated subsidiaries

Condensed financial information of consolidated subsidiaries as of and for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022			
	Assets	Liabilities	Sales	Profit (loss) for the year
GC Medical Science Co., Ltd. (formerly, Green Cross Medical Science Co., Ltd.) (*1)	₩ 96,471	₩ 60,820	₩ 113,109	₩ (3,059)
GC Wellbeing Co., Ltd. (formerly, Green Cross Wellbeing Co., Ltd.)	150,243	54,079	109,729	8,001
GC CELL CORPORATION (*1)	676,531	130,784	236,120	24,169
Invac Farm Corp.	19,247	2,029	21,544	311
GC Genome Corporation (formerly, Green Cross Genome Co., Ltd.)	48,896	22,311	24,114	(3,763)
Curevo, Inc. (*2)	-	-	-	(32,685)
GC DO BRASIL PARTICIPACOES LTDA	1,035	12	551	145
GC BIOPHARMA USA, Inc. (formerly, GC MOGAM, Inc.)	4,186	272	-	(2,946)

(*1) Consolidated financial information, including subsidiaries

(*2) Profit (loss) information for the period prior to loss of control

	2021			
	Assets	Liabilities	Sales	Profit (loss) for the year
GC Medical Science Co., Ltd. (formerly, Green Cross Medical Science Co., Ltd.) (*1)	₩ 95,629	₩ 57,693	₩ 101,675	₩ (21,138)
GC Wellbeing Co., Ltd. (formerly, Green Cross Wellbeing Co., Ltd.)	139,007	50,710	90,968	6,703
GC CELL CORPORATION	645,575	129,891	168,310	30,064
Invac Farm Corp.	18,961	1,805	21,504	848
GC Genome Corporation (formerly, Green Cross Genome Co., Ltd.)	42,431	23,464	18,498	293
Curevo, Inc.	39,009	1,328	-	(9,143)
GC DO BRASIL PARTICIPACOES LTDA	799	15	546	121
GC BIOPHARMA USA, Inc. (formerly, GC MOGAM, Inc.)	2,375	745	-	(2,666)

(*1) Consolidated financial information, including subsidiaries

1. Organization and business (cont'd)

1-3 Condensed financial information of consolidated subsidiaries (cont'd)

Summarized statements of cash flows of the significant consolidated subsidiaries for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022					
	As of January 1	Cash flows from (used in) operating activities	Cash flows from (used in) investing activities	Cash flows from (used in) financing activities	Others	As of December 31
GC Medical Science Co., Ltd. (formerly, Green Cross Medical Science Co., Ltd.) (*1)	₩ 1,843	₩ 10,880	₩ (5,675)	₩ 1,765	₩ (62)	₩ 8,751
GC Wellbeing Co., Ltd. (formerly, Green Cross Wellbeing Co., Ltd.)	8,772	1,824	(9,257)	1,302	5	2,646
GC CELL CORPORATION (*1)	18,004	65,439	(33,724)	(2,346)	1	47,374
Invac Farm Corp.	1,072	791	(1,407)	(295)	-	161
GC Genome Corporation (formerly, Green Cross Genome Co., Ltd.)	10,743	(1,883)	5,449	(672)	-	13,637
GC DO BRASIL PARTICIPACOES LTDA	764	(2)	(1)	-	97	858
GC BIOPHARMA USA, Inc. (formerly, GC MOGAM, Inc.)	2,003	(3,146)	4	4,963	138	3,962

(*1) Consolidated financial information, including subsidiaries

	2021					
	As of January 1	Cash flows from (used in) operating activities	Cash flows from (used in) investing activities	Cash flows from (used in) financing activities	Others	As of December 31
GC Medical Science Co., Ltd. (formerly, Green Cross Medical Science Co., Ltd.) (*1)	₩ 4,493	₩ (18,195)	₩ (3,279)	₩ 18,823	₩ 1	₩ 1,843
GC Wellbeing Co., Ltd. (formerly, Green Cross Wellbeing Co., Ltd.)	23,624	8,684	(42,792)	19,256	-	8,772
GC CELL CORPORATION (*1)	9,119	23,908	17,285	(32,390)	82	18,004
Invac Farm Corp.	649	2,077	(959)	(695)	-	1,072
GC Genome Corporation (formerly, Green Cross Genome Co., Ltd.)	9,404	(104)	1,933	(490)	-	10,743
Curevo, Inc.	-	(9,280)	(189)	40,146	-	-
GC DO BRASIL PARTICIPACOES LTDA	634	123	(2)	-	9	764
GC BIOPHARMA USA, Inc. (formerly, GC MOGAM, Inc.)	738	(2,153)	(3)	3,314	107	2,003

(*1) Consolidated financial information, including subsidiaries

1. Organization and business (cont'd)

1-4 Changes in subsidiaries

Details of subsidiaries newly included or excluded in consolidation for the year ended December 31, 2022 are as follows:

Name of subsidiaries	Reason
Green Vet	Disposal
Curevo Inc.	Transferred to investments in associate

Curevo Inc. is excluded from subsidiaries of the Group for the year ended December 31, 2022 due to a loss of the Group's control on it. The Group transferred its fair value to investments in associate.

Detail of gains on disposal a loss of control on Curevo, Inc. is as follows (Korean won in millions):

		Amount
Fair value of equity owned (A)	₩	70,094
Net assets at a loss of control (B)		72,963
Non-controlling interests (C)		(40,062)
Other comprehensive income to be reclassified to profit or loss (D)		(2,233)
Gains on disposal of subsiriaries (A-B-C-D)	₩	39,426

1-5 Non-controlling interests

Changes in significant consolidated non-controlling interests to which profits (loss) and equity of subsidiaries of the Group are attributed for the years ended December, 2022 and 2021 are as follows (Korean won in millions):

	2022								
	Non-controlling interests (%)		January 1		Total comprehensive profit (loss) attributable to non-controlling interests		Others including changes of equity		December 31
GC Medical Science Co., Ltd. (formerly, Green Cross Medical Science Co., Ltd.) (*1)	58.42	₩	23,585	₩	(1,451)	₩	-	₩	22,134
GC CELL CORPORATION (*1)	64.99		96,799		15,468		-		112,267

(*1) Consolidated financial statements, including subsidiaries

	2021								
	Non-controlling interests (%)		January 1		Total comprehensive profit (loss) attributable to non-controlling interests		Others including changes of equity		December 31
GC Medical Science Co., Ltd. (formerly, Green Cross Medical Science Co., Ltd.) (*1)	58.39	₩	35,397	₩	(11,812)	₩	-	₩	23,585
GC CELL CORPORATION (*1)	64.99		76,411		20,937		549		96,799

(*1) Consolidated financial statements, including subsidiaries

2. Basis of preparation and summary of significant accounting policies

2-1 Basis of consolidated financial statements preparation

The Group has been preparing statutory consolidated financial statements in Korean language in accordance with Korean International Financial Reporting Standards (K-IFRS) enacted by the *Act on External Audit of Stock Companies.*

The accompanying consolidated financial statements have been translated into English from the Korean language financial statements. In the event of any differences in the interpreting the consolidated financial statements or the independent auditors' report thereon, the Korean version, which is used for regulatory reporting purposes, shall prevail.

The consolidated financial statements were authorised for issuing by the Board of Directors on February 14, 2023 and submitted for approval to the shareholders' meeting to be held on March 29, 2023.

(1) Basis of measurement

The accompanying consolidated financial statements have been prepared based on historical cost, except for the following material items in the statements of financial position:

- Derivative financial instruments measured at fair value
- Financial assets at fair value through profit or loss
- Financial assets at fair value through other comprehensive income
- Contingent consideration assumed in a business combination
- Defined benefit liabilities(assets) at present value of the defined benefit obligation, net of fair value of plan assets

(2) Functional and presentation currency

Each financial statements of the Company and subsidiaries is presented in a functional currency which is primary economic environment in which each entity operates. The consolidated financial statements are presented in Korean won, which is the Company's functional currency and presentation currency.

(3) Use of estimates and judgments

The preparation of the consolidated financial statements in conformity with K-IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected.

(a) Judgements

Information about judgements made in applying accounting policies that have the most significant effects on the amounts recognised in the consolidated financial statements is included in the following notes:

- Note 1 : consolidation: whether the Group has de facto control over an investee;
- Note 8 : investments in associates: whether the Group has significant influence over an investee;
- Note 24 : revenue recognition: whether revenue is recognised over time or at a point in time; and
- Note 36 : lease term: whether the Group is reasonably certain to exercise extension options.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-1 Basis of consolidated financial statements preparation (cont'd)

(b) Assumptions and estimation uncertainties

Information about assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities in the next financial year is included in the following notes:

- Note 5 : measurement of ECL allowance for trade receivables and contract assets: key assumptions in determining the weighted-average loss rate;
- Note 7 : valuation of inventory: estimating the probability of sales
- Note 10 : impairment test of intangible assets and goodwill: key assumptions underlying recoverable amounts, including the recoverability of development costs;
- Note 15 : estimate of expected returns;
- Note 16 : measurement of defined benefit obligations: key actuarial assumptions;
- Note 29 : recognition of deferred tax assets: availability of future taxable profit against which deductible temporary differences and tax losses carried forward can be utilised;
- Note 30 : recognition and measurement of contingencies: key assumptions about the likelihood and magnitude of an outflow of resources; and
- Note 38 : business combination: measurement of fair value

(c) Measurement of fair values

A number of the Group's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities. The Group has an established control framework with respect to the measurement of fair values. This includes a valuation team that has overall responsibility for overseeing all significant fair value measurements, including Level 3 fair values, and reports directly to the chief financial officer.

The valuation team regularly reviews significant unobservable inputs and valuation adjustments. If third party information, such as broker quotes or pricing services, is used to measure fair values, then the valuation team assesses the evidence obtained from the third parties to support the conclusion that these valuations meet the requirements of the Standards, including the level in the fair value hierarchy in which the valuations should be classified.

When measuring the fair value of an asset or a liability, the Group uses observable market data as far as possible. Fair values are categorised into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows.

- Level 1 : quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2 : inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3 : inputs for the asset or liability that are not based on observable market data (unobservable inputs).

If the inputs used to measure the fair value of an asset or a liability fall into different levels of the fair value hierarchy, then the fair value measurement is categorised in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement. The Group recognises transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

Further information about the assumptions made in measuring fair values is included in the following note:

- Note 35 : fair value
- Note 38 : business combination

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-2 Changes in significant accounting policies

The Group has adopted Onerous Contracts – Costs of Fulfilling a Contract (Amendments to KIFRS No. 1037) from 1 January 2022. This resulted in a change in accounting policy for performing an onerous contracts assessment. Previously, the Group included only incremental costs to fulfil a contract when determining whether that contract was onerous. The revised policy is to include both incremental costs and an allocation of other direct costs.

The amendments apply prospectively to contracts existing at the date when the amendments are first applied. The Group has analysed all contracts existing at 1 January 2022 and determined that none of them would be identified as onerous applying the revised accounting policy. There is no impact on the opening equity balances as at 1 January 2022 as a result of the change.

2-3 Significant accounting policies

The adopted standards of the Group described below, the accounting policies applied in these financial statements are the same as those applied in the consolidated financial statements as of and for the year ended December 31, 2022.

(1) Basis of consolidation

(a) Business combinations

The Group accounts for business combinations using the acquisition method when the acquired set of activities and assets meets the definition of a business and control is transferred to the Group. In determining whether a particular set of activities and assets is a business, the Group assesses whether the set of assets and activities acquired includes, at a minimum, an input and substantive process and whether the acquired set has the ability to produce outputs.

The Group has an option to apply a 'concentration test' that permits a simplified assessment of whether an acquired set of activities and assets is not a business. The optional concentration test is met if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets.

The consideration transferred in the acquisition is generally measured at fair value, as are the identifiable net assets acquired. Any goodwill that arises is tested annually for impairment. Any gain on a bargain purchase is recognised in profit or loss immediately. Transaction costs are expensed as incurred, except if related to the issue of debt or equity securities under K-IFRS 1032 and K-IFRS 1109.

The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognised in profit or loss.

Any contingent consideration is measured at fair value at the date of acquisition. If an obligation to pay contingent consideration that meets the definition of a financial instrument is classified as equity, then it is not remeasured and settlement is accounted for within equity. Otherwise, other contingent consideration is remeasured at fair value at each reporting date and subsequent changes in the fair value of the contingent consideration are recognised in profit or loss.

If share-based payment awards (replacement awards) are required to be exchanged for awards held by the acquiree's employees (acquiree's awards), then all or a portion of the amount of the acquirer's replacement awards is included in measuring the consideration transferred in the business combination. This determination is based on the market-based measure of the replacement awards compared with the market-based measure of the acquiree's awards and the extent to which the replacement awards relate to pre-combination service.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(b) Subsidiaries

Subsidiaries are entities controlled by the Group. The Group 'controls' an entity when it is exposed to or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

(c) Non-controlling interests

NCI are measured initially at their proportionate share of the acquiree's identifiable net assets at the date of acquisition. Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

(d) Loss of control

When the Group loses control over a subsidiary, it derecognises the assets and liabilities of the subsidiary, and any related NCI and other components of equity. Any resulting gain or loss is recognised in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

(e) Interests in equity-accounted investees

The Group's interests in equity-accounted investees comprise interests in associates and a joint venture.

Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

Interests in associates and joint ventures are accounted for using the equity method. They are initially recognised at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and OCI of equity accounted investees, until the date on which significant influence or joint control ceases.

(f) Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealised income and expenses (except for foreign currency transaction gains or losses) arising from intra-group transactions, are eliminated. Unrealised gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

(g) Business combination under common control

The identifiable net assets acquired and liabilities assumed through business combination under common control are measured at book value in the consolidated financial statements of the parent company. The differences between the consideration transferred and the book value of the net assets acquired arising on transaction are recognised in capital surplus.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(2) Discontinued operation

A discontinued operation is a component of the Group's business, the operations and cash flows of which can be clearly distinguished from the rest of the Group and which:

- represents a separate major line of business or geographic area of operations;
- is part of a single co-ordinated plan to dispose of a separate major line of business or geographic area of operations; or
- is a subsidiary acquired exclusively with a view to resale.

When an operation is classified as a discontinued operation, the comparative statement of profit or loss and OCI is re-presented as if the operation had been discontinued from the start of the comparative year.

(3) Cash and cash equivalents

Cash and cash equivalents comprise highly liquid investments with maturities of three months or less from the acquisition date. Equity investments are excluded from cash equivalents unless they are essentially cash equivalents, for instance, if the preferred shares are acquired within a s short maturity period and with specified recovery date.

(4) Inventories

The unit cost of inventories is determined using the total average method except for materials in transit (specific identification method), raw materials and supplies (moving average method). The cost of inventories includes expenditures for acquiring the inventories, production or conversion costs and other costs incurred in bringing them to their existing location and condition. Fixed manufacturing overhead costs included in the cost of finished goods and goods in progress are allocated, based on the normal capacity.

Inventories are measured at the lower of cost or net realisable value. The amount of any write-down of inventories to net realisable value and all losses of inventories are recognised as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realisable value, is recognised as a reduction of the cost of sales of inventories in the period in which the reversal occurs.

(5) Non-derivative financial assets

(a) Recognition and initial measurement

Trade receivables and debt securities issued are initially recognised when they are originated. All other financial assets and financial liabilities are initially recognised when the Group becomes a party to the contractual provisions of the instrument.

A financial asset (unless it is a trade receivable without a significant financing component) or financial liability is initially measured at fair value plus or minus, for an item not at FVTPL, transaction costs that are directly attributable to its acquisition or issue. A trade receivable without a significant financing component is initially measured at the transaction price.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(b) Classification and subsequent measurement

i) Financial assets
On initial recognition, a financial asset is classified as measured at: amortised cost; FVOCI – debt investment; FVOCI – equity investment; or FVTPL.

Financial assets are not reclassified subsequent to their initial recognition unless the Group changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the first reporting period following the change in the business model.

A financial asset is measured at amortised cost if it meets both of the following conditions and is not designated as at FVTPL:

- it is held within a business model whose objective is to hold assets to collect contractual cash flows; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

A debt investment is measured at FVOCI if it meets both of the following conditions and is not designated as at FVTPL:

- it is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

On initial recognition of an equity investment that is not held for trading, the Group may irrevocably elect to present subsequent changes in the investment's fair value in OCI. This election is made on an investment-by-investment basis.

All financial assets not classified as measured at amortised cost or FVOCI as described above are measured at FVTPL. This includes all derivative financial assets. On initial recognition, the Group may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortised cost or at FVOCI as at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise.

ii) Financial assets – Business model assessment
The Group makes an assessment of the objective of the business model in which a financial asset is held at a portfolio level because this best reflects the way the business is managed and information is provided to management. The information considered includes:

- the stated policies and objectives for the portfolio and the operation of those policies in practice. These include whether management's strategy focuses on earning contractual interest income, maintaining a particular interest rate profile, matching the duration of the financial assets to the duration of any related liabilities or expected cash outflows or realising cash flows through the sale of the assets;
- how the performance of the portfolio is evaluated and reported to the Group's management;
- the risks that affect the performance of the business model (and the financial assets held within that business model) and how those risks are managed;
- how managers of the business are compensated – e.g. whether compensation is based on the fair value of the assets managed or the contractual cash flows collected; and
- the frequency, volume and timing of sales of financial assets in prior periods, the reasons for such sales and expectations about future sales activity.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

Transfers of financial assets to third parties in transactions that do not qualify for derecognition are not considered sales for this purpose, consistent with the Group's continuing recognition of the assets.

Financial assets that are held for trading or are managed and whose performance is evaluated on a fair value basis are measured at FVTPL.

iii) Financial assets – Assessment whether contractual cash flows are solely payments of principal and interest
For the purposes of this assessment, 'principal' is defined as the fair value of the financial asset on initial recognition. 'Interest' is defined as consideration for the time value of money and for the credit risk associated with the principal amount outstanding during a particular period of time and for other basic lending risks and costs (e.g. liquidity risk and administrative costs), as well as a profit margin.

In assessing whether the contractual cash flows are solely payments of principal and interest, the Group considers the contractual terms of the instrument. This includes assessing whether the financial asset contains a contractual term that could change the timing or amount of contractual cash flows such that it would not meet this condition. In making this assessment, the Group considers:

- contingent events that would change the amount or timing of cash flows;
- terms that may adjust the contractual coupon rate, including variable-rate features;
- prepayment and extension features; and
- terms that limit the Group's claim to cash flows from specified assets (e.g. non-recourse features).

A prepayment feature is consistent with the solely payments of principal and interest criterion if the prepayment amount substantially represents unpaid amounts of principal and interest on the principal amount outstanding, which may include reasonable compensation for early termination of the contract.

Additionally, for a financial asset acquired at a discount or premium to its contractual par amount, a feature that permits or requires prepayment at an amount that substantially represents the contractual par amount plus accrued (but unpaid) contractual interest (which may also include reasonable compensation for early termination) is treated as consistent with this criterion if the fair value of the prepayment feature is insignificant at initial recognition.

iv) Financial assets – Subsequent measurement and gains and losses

Financial assets at FVTPL	These assets are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognised in profit or loss.
Financial assets at amortised cost	These assets are subsequently measured at amortised cost using the effective interest method. The amortised cost is reduced by impairment losses. Interest income, foreign exchange gains and losses and impairment are recognised in profit or loss. Any gain or loss on derecognition is recognised in profit or loss.
Debt investments at FVOCI	These assets are subsequently measured at fair value. Interest income calculated using the effective interest method, foreign exchange gains and losses and impairment are recognised in profit or loss. Other net gains and losses are recognised in OCI. On derecognition, gains and losses accumulated in OCI are reclassified to profit or loss.
Equity investments at FVOCI	These assets are subsequently measured at fair value. Dividends are recognised as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognised in OCI and are never reclassified to profit or loss.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(c) Derecognition

i) Financial assets
The Group derecognises a financial asset when

- the contractual rights to the cash flows from the financial asset expire; or
- it transfers the rights to receive the contractual cash flows in a transaction in which either:
  - substantially all the risks and rewards of ownership of the financial asset are transferred; or
  - the Group neither transfers nor retains substantially all the risks and rewards of ownership and it does not retain control of the financial asset.

The Group enters into transactions whereby it transfers assets recognised in its statement of financial position, but retains either all or substantially all of the risks and rewards of the transferred assets. In these cases, the transferred assets are not derecognised.

ii) Interest rate benchmark reform
When the basis for determining the contractual cash flows of a financial asset or financial liability measured at amortised cost changes as a result of interest rate benchmark reform, the Group updates the effective interest rate of the financial asset or financial liability to reflect the change that is required by the reform. A change in the basis for determining contractual cash flows is required by interest rate benchmark reform only if both of the following conditions are met:

- the change is necessary as a direct consequence of the reform; and
- the new basis for determining the contractual cash flows is economically equivalent to the previous basis, i.e., the basis immediately before the change.

When changes are made to a financial asset or financial liability in addition to changes to the basis for determining the contractual cash flows required by interest rate benchmark reform, the Group first updates the effective interest rate of the financial asset or financial liability to reflect the change that is required by interest rate benchmark reform. Upon any additional reform, the Group applies the existing accounting policies.

(d) Offsetting

Financial assets and financial liabilities are offset and the net amount presented in the statement of financial position when, and only when, the Group currently has a legally enforceable right to set off the amounts and it intends either to settle them on a net basis or to realise the asset and settle the liability simultaneously.

(6) Derivatives

Derivatives are initially measured at fair value. Subsequent to initial recognition, derivatives are measured at fair value, and changes therein are generally recognised in profit or loss.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(7) Impairment of financial assets

(a) Financial instruments and contract assets

The Group recognises loss allowances for ECLs on:

- financial assets measured at amortised cost;
- debt investments measured at FVOCI; and
- contract assets.

The Group measures loss allowances at an amount equal to lifetime ECLs, except for the following, which are measured at 12-month ECLs:

- debt securities that are determined to have low credit risk at the reporting date; and
- other debt securities and bank balances for which credit risk (i.e. the risk of default occurring over the expected life of the financial instrument) has not increased significantly since initial recognition.

Loss allowances for trade receivables (including lease receivables) and contract assets are always measured at an amount equal to lifetime ECLs.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Group considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Group's historical experience and informed credit assessment that includes forward-looking information.

The Group assumes that the credit risk on a financial asset has increased significantly if it is more than 6 months from the date of the receivables' occurrence.

The Group considers a financial asset to be in default when:

- the debtor is unlikely to pay its credit obligations to the Group in full, without recourse by the Group to actions such as realising security (if any is held); or
- the financial asset is more than 6 months past due.

Lifetime ECLs are the ECLs that result from all possible default events over the expected life of a financial instrument.

12-month ECLs are the portion of ECLs that result from default events that are possible within the 12 months after the reporting date (or a shorter period if the expected life of the instrument is less than 12 months).

The maximum period considered when estimating ECLs is the maximum contractual period over which the Group is exposed to credit risk.

(b) Measurement of ECLs

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Group expects to receive). ECLs are discounted at the effective interest rate of the financial asset.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(c) Credit-impaired financial assets

At each reporting date, the Group assesses whether financial assets carried at amortised cost and debt securities at FVOCI are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Evidence that a financial asset is credit-impaired includes the following observable data:

- significant financial difficulty of the debtor;
- a breach of contract such as a default or being more than 6 months past due;
- the restructuring of a loan or advance by the Group on terms that the Group would not consider otherwise
- it is probable that the debtor will enter bankruptcy or other financial reorganisation; or
- the disappearance of an active market for a security because of financial difficulties.

(d) Presentation of allowance for ECL in the statement of financial position

Loss allowances for financial assets measured at amortised cost are deducted from the gross carrying amount of the assets. For debt securities at FVOCI, the loss allowance is charged to profit or loss and is recognised in OCI.

(e) Write-off

The gross carrying amount of a financial asset is written off when the Group has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof. The Group individually makes an assessment with respect to the timing and amount of write-off based on whether there is a reasonable expectation of recovery. The Group expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Group's procedures for recovery of amounts due.

(8) Property, plant and equipment

Property, plant and equipment are initially measured at cost. The cost of property, plant and equipment includes expenditures arising directly from construction or acquisition of the asset, any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management and the initial estimate of costs of dismantling and removing the item and restoring the site on which it is located.

Property, plant and equipment are stated at cost, net of accumulated depreciation and accumulated impairment losses, if any, after initial recognition.

Depreciation is calculated to write off the cost of items of property, plant and equipment less their estimated residual values using the straight-line method over their estimated useful lives, and is generally recognised in profit or loss. Land is not depreciated.

If significant parts of an item of property, plant and equipment have different useful lives, then they are accounted for as separate items (major components) of property, plant and equipment.

Any gain or loss on disposal of an item of property, plant and equipment is recognised in profit or loss.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

The estimated useful lives of property, plant and equipment for current and comparative periods are as follows:

- Buildings	: 43 ~ 50 years
- Structures	: 5 ~ 25 years
- Machinery	: 2 ~ 15 years
- Others	: 3 ~ 25 years

Depreciation methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate. Those changes are accounted for as changes in accounting estimates.

Subsequent expenditure is capitalised only if it is probable that the future economic benefits associated with the expenditure will flow to the Group.

(9) Intangible assets

Intangible assets are measured initially at cost and, subsequently, are carried at cost less accumulated amortisation and accumulated impairment losses.

The intangible assets, of which the residual values are zero ("0"), are amortized on a straight-line basis over useful lives as follows. However, some intangible assets are not amortized because the useful lives of the intangible assets cannot be estimated and the useful lives are deemed to be indefinite.

- Development costs	: 10 ~ 20 years
- Patents	: 8 ~ 20 years
- Others	: 5 ~ 19 years

Amortisation methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate. Those changes are accounted for as changes in accounting estimates.

(a) Research and development

Expenditure on research activities is recognised in profit or loss as incurred. Development expenditure is capitalised only if the expenditure can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Otherwise, it is recognised in profit or loss as incurred.

Newly developed projects include acquisition of drug candidates, non-clinical trials (efficacy and safety trials), clinical trials (phase 1 ~ phase 3), and product approvals. The Group generally recognises intangible assets considering the volume of expansion in the market, competitiveness and business value of the expenditures which has been incurred since the internally generated intangible asset has passed phase 2 of clinical trial and has entered into the market. Any expenses incurred before such stage are considered research and development costs and accounted as current year expenses.

Following initial recognition of the development expenditure as an asset, the asset is carried at cost less accumulated amortisation and any accumulated impairment losses. Amortisation of the asset begins when development is completed, and the asset is available for use. It is amortised over the period of expected future benefit. During the period of development, the asset is tested for impairment annually.

(b) Subsequent expenditure

Subsequent expenditure is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure, including expenditure on internally generated goodwill and brands, is recognised in profit or loss as incurred.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(10) Borrowing costs

The Group capitalizes borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset as part of the cost of that asset. Other borrowing costs are recognised in expense as incurred. A qualifying asset is an asset that requires a substantial period of time to get ready for its intended use or sale. Financial assets and inventories that are manufactured or otherwise produced over a short period of time are not qualifying assets. Assets that are ready for their intended use or sale when acquired are not qualifying assets.

To the extent that the Group borrows funds specifically for the purpose of obtaining a qualifying asset, the Group determines the amount of borrowing costs eligible for capitalization as the actual borrowing costs incurred on that borrowing during the period less any investment income on the temporary investment of those borrowings. To the extent that the Group borrows funds generally and uses them for the purpose of obtaining a qualifying asset, the Group shall determine the amount of borrowing costs eligible for capitalization by applying a capitalization rate to the expenditures on that asset. The capitalization rate shall be the weighted average of the borrowing costs applicable to the borrowings of the Group that are outstanding during the period, other than borrowings made specifically for the purpose of obtaining a qualifying asset. The amount of borrowing costs that the Group capitalizes during a period shall not exceed the amount of borrowing costs incurred during that period.

(11) Government grants

Government grants are recognised when there is reasonable assurance that the grant will be received and the Group will comply with the conditions attached to them.

Government grants relating to assets are recognised as deferred income government grants and are credited to the statement of profit or loss over the expected lives of the related assets.

Government grants relating to costs are deferred and recognised in the statement of profit or loss over the period necessary to match them with the costs that they are intended to compensate.

(12) Investment property

Property held for the purpose of earning rentals or benefiting from capital appreciation is classified as investment property. Investment property is initially measured at cost and, after initial recognition is carried at cost less accumulated depreciation and accumulated impairment losses.

Subsequent expenditure is capitalised or recognised as an individual asset only when it increases the future economic benefits embodied in the specific asset to which it relates and the replaced items are derecognised. All other repairs and maintenance costs are recognised in profit or loss as incurred.

Investment properties, except for land, is depreciated on a straight-line basis over estimated useful lives, 43 ~ 50 years.

Depreciation methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate. Those changes are accounted for as changes in accounting estimates.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(13) Impairment of non-financial assets

At each reporting date, the Group reviews the carrying amounts of its non-financial assets (other than contract assets, assets arising from costs to fulfil a contract and retirement benefits, biological assets, inventories, deferred tax assets and non-current assets held for sale) to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount would be estimated. Intangible assets with indefinite useful lives or have not yet entered the market are tested annually for impairment.

The Group estimates the recoverable amount of an individual asset. However, if it is impossible to measure the individual recoverable amount of an asset, then the Group estimates the recoverable amount of each cash-generating unit ("CGU"). The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. Value in use is determined, based on the estimated future cash flows, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU.

An impairment loss is recognised in profit or loss if the carrying amount of an asset or a CGU exceeds its recoverable amount.

Impairment losses on a CGU are allocated first to reduce the carrying amount of any goodwill allocated to the CGU, and then to reduce the carrying amounts of the other assets in the CGU on a pro rata basis. An impairment loss in respect of goodwill is not reversed. For other assets, an impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

(14) Lease

A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

(a) As a lessee

At commencement or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of its relative stand-alone prices. However, for the leases of property the Group has elected not to separate non-lease components and account for the lease and non-lease components as a single lease component.

The Group recognises a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the cost of the right-of-use asset reflects that the Group will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

The Group determines its incremental borrowing rate by obtaining interest rates from various external financing sources and makes certain adjustments to reflect the terms of the lease and type of the asset leased.

Lease payments included in the measurement of the lease liability comprise the following:

- fixed payments, including in-substance fixed payments;
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;
- amounts expected to be payable under a residual value guarantee; and
- the exercise price under a purchase option that the Group is reasonably certain to exercise, lease payments in an optional renewal period if the Group is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Group is reasonably certain not to terminate early.

The lease liability is measured at amortised cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Group's estimate of the amount expected to be payable under a residual value guarantee, if the Group changes its assessment of whether it will exercise a purchase, extension or termination option or if there is a revised in-substance fixed lease payment.

When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

Since January 1, 2021, whereby changes to the basis for determining future lease payments are required by interest rate benchmark reform, the Group remeasures the lease liabilities by discounting the revised lease payments using the revised discount rate that reflects the alternative benchmark interest rate.

Short-term leases and leases of low-value assets
The Group has elected not to recognise right-of-use assets and lease liabilities for leases of low-value assets and short-term leases, including equipment. The Group recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

(b) As a lessor

At inception or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of their relative standalone prices.

When the Group acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Group makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Group applies the exemption described above, then it classifies the sub-lease as an operating lease.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

If an arrangement contains lease and non-lease components, then the Group applies K-IFRS 1115 to allocate the consideration in the contract. The Group applies the derecognition and impairment requirements in K-IFRS 1109 to the net investment in the lease (see Note 2-3(7)). The Group regularly reviews estimated unguaranteed residual values used in calculating the gross investment in the lease.

The Group recognises lease payments received under operating leases as an income on a straight-line basis over the lease term as part of 'other income'.

(15) Assets held for sale

Non-current assets, or disposal groups comprising assets and liabilities, are classified as held-for sale if it is highly probable that they will be recovered primarily through sale rather than through continuing use. For assets or disposal groups to be classified to assets held for sales, the assets (or asset group) must be available for immediate sales in its present condition and their sale must be highly probable. Such assets, or disposal groups, are generally measured at the lower of their carrying amount and fair value less costs to sell. The Group recognises an impairment loss in profit or loss immediately if the fair value less costs to sell of the assets recognised impairment at initial classification decreases, and a gain in profit or loss up to the cumulative impairment loss previously if the fair value less costs to sell increase.

Once classified as held-for-sale, intangible assets and property, plant and equipment are no longer amortised or depreciated, and any equity-accounted investee is no longer equity accounted.

(16) Non-derivative financial liabilities

Financial liabilities are classified as measured at amortised cost or FVTPL. Financial liabilities are initially recognised when the Group becomes a party to the contractual provisions of the financial instruments.

(a) Financial liabilities at FVTPL

Financial liabilities are classified as at FVTPL if it is classified as held-for-trading, it is a derivative or it is designated as such on initial recognition.

Financial liabilities at FVTPL are subsequently measured at fair value. Net gains and losses arising from changes of credit risk of financial liabilities are recognised in OCI and others are recognised in profit or loss. Transaction costs that are directly attributable to the initial issuance of the financial liabilities are recognised in profit or loss.

(b) Other financial liabilities

Financial liabilities not classified as at FVPTL are classified as other financial liabilities and are measured at fair value minus transaction costs that are directly attributable to the issuance at initial recognition. Using the effective interest method, other financial liabilities are subsequently measured at amortised cost and interest expenses are recognised.

(c) Derecognition

The Group derecognises a financial liability when its contractual obligations are discharged, cancelled, or expired. The Group also derecognises a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognised at fair value. On derecognition, the difference between the carrying amount extinguished and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognised in profit or loss.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(17) Employee benefits

(a) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled within 12 months after the end of the period in which the employees render the related services. When an employee has rendered service to the Group during an accounting period, the Group recognises the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service as profit or loss.

(b) Other long-term employee benefits

Other long-term employee benefits that are not to be paid within 12 months after the end of the reporting period for which the employees have provided relevant services are discounted to the present value of future benefits received in exchange for services rendered during the current and previous periods. Changes in remeasurement are recognised in profit or loss in the period in which they arise.

(c) Retirement benefits: defined contribution plans

Obligations for contributions to defined contribution plans are expensed as the relative service is provided unless they are capitalized. Contributions payable are recognised as liabilities (other payables) after deducting any contributions already paid. Also if the contributions already paid exceeds the contribution due for service before the end of the reporting period, the Group recognises that excess as an asset (prepaid expense) to the extent that the prepayment will lead to a reduction in future payments or a cash refund.

(d) Retirement benefits: defined benefit plans

The Group's net obligation in respect of defined benefit plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount and deducting the fair value of any plan assets.

The calculation of defined benefit obligations is performed annually by a qualified actuary using the projected unit credit method. When the calculation results in a potential asset for the Group, the recognised asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan.

Remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognised immediately in OCI. The Group determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability (asset), taking into account any changes in the net defined benefit liability (asset) during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognised in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognised immediately in profit or loss. The Group recognises gains and losses on the settlement of a defined benefit plan when the settlement occurs.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(18) Provisions

Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The risks and uncertainties that inevitably surround many events and circumstances are taken into account in reaching the best estimate of a provision. Where the effect of the time value of money is material, provisions are determined at the present value of the expected future cash flows.

When the Group expects some or all of a provision to be reimbursed, for example, under an insurance contract, the reimbursement is recognised as a separate asset.

The initial estimates for provisions are revised annually and accrued at the end of each reporting period based on the latest estimates. A previously recognised provision is reversed when the possibility of the outflow of resources embodying economic benefits is no longer required to settle the obligation.

A provision for warranties is recognised when the underlying products or services are sold, based on historical warranty data and a weighting of possible outcomes against their associated probabilities.

A provision is used only for expenditures for which the provision was originally recognised.

(19) Convertible bond

The convertible bond issued by the Group has an equity conversion right that can be converted into ordinary shares at the option of the holder. The number of shares to be issued is not fixed and vary with changes depending on its fair value. The Group recognises the conversion option as a liability and accounted for derivatives.

The equity conversion option, as an embedded derivative, is initially measured at fair value based on market prices in active markets or reasonable price estimated by the proper price model. Subsequent changes in fair value of the option are recognised in profit or loss. The liability component of the compound financial instruments is recognised initially as the fair value of the convertible bonds, less the fair value of the equity conversion option and is measured subsequently at amortised cost using the effective interest method. When the fair value of the equity conversion option cannot be reliably measured at the initial recognition, the amount of the fair value of the convertible bonds less the fair value of the liability component is deemed to be the fair value of the equity conversion option.

The equity conversion option is reclassified to the equity if the number of shares to be issued by exercising options is fixed.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(20) Emissions rights

The Group accounts for greenhouse gases emission rights and the relevant liabilities pursuant to the Act on Allocation and Trading of Greenhouse Gas Emission in Korea.

(a) Greenhouse gases emission right

Greenhouse gases emission rights consist of emission allowances, which are allocated from the government free of charge, or are purchased from the market. Free allocation emission rights are measured at zero ("0"), and emission rights purchased from the market are measured at cost including any directly attributable costs incurred during the normal operation of business.

Emission rights held for the purpose of carrying out obligations are classified as intangible asset and are initially measured at cost. The carrying amount of the emission rights is measured to be the costs less accumulated impairment losses. Emission right held for short-term trading is classified as current asset and is measured at fair value. Any changes in fair value are recognised in profit or loss of each reporting period.

The Group derecognises an emission right asset when the emission allowance is unusable, disposed or submitted to government in which the future economic benefits are no longer expected to be probable.

(b) Emission liability

Emission liability is a present obligation to submit emission rights to the government regarding the emission of greenhouse gas. The emission liability is measured based on the expected quantity of emission for the performing period in excess of emission allowance in possession. The Group derecognises an emission liability at the time submitted to the government.

(21) Foreign currency

(a) Foreign currency translations

Transactions in foreign currencies are initially recorded by the Group's entities at their respective functional currency spot rates at the date the transaction first qualifies for recognition. Monetary assets and liabilities denominated in foreign currencies are retranslated at the functional currency spot rate of exchange at the reporting date. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the date of the transaction.

Foreign currency differences arising from translation of monetary items are recognised in profit or loss, except for differences arising from a financial liability designated as a hedge of the net investment in a foreign operation and differences at the time of payment of monetary items. When a gain or loss on a non-monetary item is recognised in OCI, any effects that arise from changing translation rates are recognised in OCI. Conversely, when a gain or loss on a non-monetary item is recognised in profit or loss, any effects that arise from changing translation rates are recognised in profit or loss.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(b) Foreign operations

If the presentation currency of the Group is different from a foreign operation's functional currency, the financial statements of the foreign operation are translated into the presentation currency using the following methods:

The assets and liabilities of foreign operations, whose functional currency is not the currency of a hyperinflationary economy, are translated to presentation currency at exchange rates as of the reporting period. The income and expenses of foreign operations are translated to functional currency at exchange rates at the dates of the transactions. Foreign currency differences are recognised in OCI.

Any goodwill and fair value adjustments to the carrying amounts of assets and liabilities in connection with the acquisition of the foreign operation represented in the functional currency of the foreign operation and translated at the exchange rates as of the reporting date.

When a foreign operation is disposed of, the relevant amount in foreign currency translation is reclassified from OCI to profit or loss at the time of disposal. In the case of the partial disposal of a subsidiary including a foreign operation, the relevant proportion of such cumulative amount is reattributed to non-controlling interest. In the other cases of partial disposal of a foreign operation, the relevant proportion is reclassified to profit or loss.

(22) Share capital

Ordinary shares are classified as equity. Incremental costs directly attributable to the issuance of ordinary shares are recognised as the deduction from equity, net of any tax effects.

Non-redeemable preference shares are classified as equity, because they bear discretionary dividends, do not contain any obligations to deliver cash or other financial assets and do not require settlement in a variable number of the Group's equity instruments. Discretionary dividends thereon are recognised as equity distributions on approval by the Company's shareholders. The Group's redeemable preference shares are classified as financial liabilities, because they bear non-discretionary dividends and are redeemable in cash by the holders. Non-discretionary dividends thereon are recognised as interest expense in profit or loss as accrued.

When the Group repurchases its share capital, the amount of the consideration paid is recognised as a deduction from equity and classified as treasury shares. The surplus or deficit from the purchase, disposal, reissue, or retirement of treasury shares are not recognised as the profit or loss. If the Group acquires and disposes treasury shares, the consideration paid or received is directly recognised in equity.

(23) Revenue from contracts with customers

The Group's accounting policies relating to revenue from contracts with customers are provided in Note 24-2(4).

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(24) Finance income and finance costs

The Group's finance income and finance costs include:

- interest income;
- interest expense;
- dividend income;
- the net gain or loss on the disposal of investments in debt securities measured at FVOCI;
- the net gain or loss on financial assets at FVTPL;
- the foreign currency gain or loss on financial assets and financial liabilities; and
- impairment losses (and reversals) on investments in debt securities carried at amortised cost or FVOCI

Interest income or expense is recognised using the effective interest method. Dividend income is recognised in profit or loss at the date when the Group's right to receive payment is established.

The 'effective interest rate' is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to the gross carrying amount of the financial asset or the amortised cost of the financial liability.

In calculating interest income and expense, the effective interest rate is applied to the gross carrying amount of the asset (when the asset is not credit-impaired) or to the amortised cost of the liability. However, for financial assets that have become credit-impaired after initial recognition, interest income is calculated by applying the effective interest rate to the amortised cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

(25) Income tax

Income tax expense comprises current and deferred tax. It is recognised in profit or loss except to the extent that it relates to a business combination, or items recognised directly in equity or in OCI.

The Group has determined that interest and penalties related to income taxes, including uncertain tax treatments, do not meet the definition of income taxes under K-IFRS 1012 'Income Tax', and therefore accounted for them under K-IFRS 1037 'Provisions, Contingent Liabilities and Contingent Assets'.

(a) Current tax

Current tax comprises the expected tax payable or receivable on the taxable income or loss for the year and any adjustment to the tax payable or receivable in respect of previous years. The taxable profit is different from the accounting profit from for the period since the taxable profit excludes temporary differences, which will be taxable or deductible in determining taxable profit (tax loss) of future periods, and non-taxable or non-deductible items from the accounting profit. It is measured using tax rates enacted or substantively enacted at the reporting date.

Current tax assets and liabilities are offset only if certain criteria is met;

- Have a legally enforceable right to offset the recognised amounts; and
- there is an intention to settle on a net basis or, to realize the assets and settle the liabilities simultaneously.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(b) Deferred tax

The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities. The Group recognises a deferred tax liability for all taxable temporary differences associated with investments in subsidiaries, associates and interests in joint ventures except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

The Group recognises deferred tax assets for all deductible temporary differences including unused tax loss and tax credit to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

Deferred tax assets are recognised for unused tax losses, unused tax credits and deductible temporary differences to the extent that it is probable that future taxable profits will be available against which they can be used. Future taxable profits are determined based on the reversal of relevant taxable temporary differences. If the amount of taxable temporary differences is insufficient to recognise a deferred tax asset in full, then future taxable profits, adjusted for reversals of existing temporary differences, are considered, based on the business plans for individual subsidiaries in the Group.

Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realised such reductions are reversed when the probability of future taxable profits improves.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current tax liabilities and assets on a net basis. If there are any additional income tax expense incurred in accordance with dividend payments, such income tax expense is recognised when liabilities relating to the dividend payments are recognised.

(26) Earning per share

The Group represents basic and diluted earnings per share (EPS) data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to ordinary shareholders of the Parent Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held. Diluted EPS is determined by adjusting the profit or loss attributable to ordinary shareholders and the weighted average number of outstanding ordinary shares, adjusted for own shares held, for the effects of all dilutive potential ordinary shares including stock options.

2. Basis of preparation and summary of significant accounting policies (cont'd)

2-3 Significant accounting policies (cont'd)

(27) New standards and interpretations not yet adopted

Standards issued but not yet effective in the Group's fiscal period begun on January 1, 2022 are listed below. The Group have not early adopted these amendments.

- Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments to K-IFRS No. 1012)
  The amendments include an additional condition to the exemption to initial recognition of right-of-use assets and lease liability or provisions for restoration liabilities and assets, that a transaction does not give rise to equal taxable and deductible temporary differences at the time of the transaction. The amendment will be effective for annual periods beginning on or after January 1, 2023 but they do not have a material effect on the Group's financial statements.

  For leases and decommissioning liabilities, the associated deferred tax asset and liabilities will need to be recognised from the beginning of the earliest comparative period presented, with any cumulative effect recognised as an adjustment to retained earnings or other components of equity at that date.

  For all other transactions, the amendments apply to transactions that occur after the beginning of the earliest period presented but they do not have a material effect on the Group's financial statements.

- Classification of Liabilities as Current or Non-Current (Amendments to KIFRS No. 1001)
  The amendments, as issued in 2020, aim to clarify the requirements on determining whether a liability is current or non-current, and apply for annual reporting periods beginning on or after 1 January 2023. However, the IASB has subsequently proposed further amendments to IAS 1 and the deferral of the effective date of the 2020 amendments to no earlier than 1 January 2024. Due to these ongoing developments, the Group is unable to determine the impact of these amendments on the consolidated financial statements in the period of initial application. The Group is closely monitoring the developments.

The Group does not expect that these amendments listed below have a significant impact on the consolidated financial statements.

- Insurance Contract and amendments to K-IFRS No. 1117 Insurance Contracts
- Disclosure of Accounting Policies (Amendments to K-IFRS No. 1001)
- Definition of Accounting Estimates (Amendments to K-IFRS No. 1008)

The Group has not adopted above standards in preparing its consolidated financial statements and does not expect that these amendments have a significant impact on the consolidated financial statements.

3. Operating segment information

The Group has 4 reportable segments, which represent business units. The reportable operating segments determined based on their goods and services are as follows:

	Principal operation
Manufacture and sale of pharmaceuticals	Manufacture and sale of pharmaceuticals and others
Diagnose and analysis	Blood diagnostics and gene analysis
Research of pharmaceuticals	Researching and developing vaccine and others
Others	Farming and other services

The following table presents profit (loss) before tax information by reportable segments for the years ended December 31, 2022 and 2021 (Korean won in millions):

	2022			2021		
	Sales	Operating profit(loss)	Profit (loss) for the year	Sales	Operating profit(loss)	Profit (loss) for the year
Manufacture and sale of pharmaceuticals	₩ 1,484,485	₩ 74,241	₩ 56,052	₩ 1,375,818	₩ 45,162	₩ 124,372
Diagnose and analysis	262,178	40,495	24,903	187,367	35,023	34,901
Research of pharmaceuticals	-	(33,755)	(32,685)	-	(8,962)	(9,143)
Others	22,095	401	456	22,049	1,062	969
	₩ 1,768,758	₩ 81,382	₩ 48,726	₩ 1,585,234	₩ 72,285	₩ 151,099
Consolidation adjustments	(57,445)	(118)	20,689	(47,408)	1,377	(14,149)
Consolidated comprehension income	₩ 1,711,313	₩ 81,264	₩ 69,415	₩ 1,537,826	₩ 73,662	₩ 136,950

The following table presents assets, liabilities and equity by reportable segments as of December 31, 2022 and 2021 (Korean won in millions):

	2022			2021		
	Assets	Liabilities	Equity	Assets	Liabilities	Equity
Manufacture and sale of pharmaceuticals	₩ 2,137,090	₩ 810,749	₩ 1,326,341	₩ 2,177,622	₩ 813,103	₩ 1,364,519
Diagnose and analysis	751,837	152,477	599,360	703,210	149,311	553,899
Research of pharmaceuticals	70,094	-	70,094	39,009	1,328	37,681
Others	20,282	2,041	18,241	19,760	1,820	17,940
	₩ 2,979,303	₩ 965,267	₩ 2,014,036	₩ 2,939,601	₩ 965,562	₩ 1,974,039
Consolidation adjustment	(453,766)	(6,372)	(447,394)	(477,456)	(3,174)	(474,282)
Consolidated financial position	₩ 2,525,537	₩ 958,895	₩ 1,566,642	₩ 2,462,145	₩ 962,388	₩ 1,499,757

The following table presents sales information by region for the years ended December 31, 2022 and 2021 (Korean won in millions):

	2022	2021
Domestic	₩ 1,462,048	₩ 1,346,296
Oversea	306,710	238,938
	₩ 1,768,758	₩ 1,585,234
Consolidation adjustments	(57,445)	(47,408)
Consolidated comprehension income	₩ 1,711,313	₩ 1,537,826

4. Cash and cash equivalents

Details of cash and cash equivalents as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Cash on hand	₩ 6	₩ 12
Demand deposits	70,933	161,214
Checking deposits	1,897	2,038
Other deposits	32,530	22,796
	₩ 105,366	₩ 186,060

5. Trade and other receivables

Details of trade and other receivables as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
	Current	Non-current	Current	Non-current
Trade receivables	₩ 394,155	₩ -	₩ 413,791	₩ -
Other receivables	13,477	-	9,598	-
Accrued income	301	-	26	-
Loans	1,500	4,779	546	279
Guarantee deposits	4,473	26,268	771	25,211
Finance lease receivables	-	-	26	-
	₩ 413,906	₩ 31,047	₩ 424,758	₩ 25,490

Trade and other receivables have been reported net of allowances in the consolidated statements of financial position. The gross amount of trade and other receivables and related allowances as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Gross trade and other receivables	₩ 451,811	₩ 462,382
Allowance for doubtful accounts:		
Trade receivables	(6,751)	(12,034)
Other receivables	(19)	(12)
Guarantee deposits	(88)	(88)
	₩ (6,858)	₩ (12,134)
Net trade and other receivables	₩ 444,953	₩ 450,248

5. Trade and other receivables (cont'd)

Changes in the allowance accounts for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022				2021		
	Trade receiva-bles	Other receiva-bles	Guaran-tee deposits	Loans	Trade receiva-bles	Other receiva-bles	Guaran-tee deposits
As of January 1	₩ 12,034	₩ 12	₩ 88	₩ -	₩ 4,916	₩ 178	₩ 228
Impairment(Reversal)	2,246	7	-	547	7,054	10	(74)
Write-off and others	(7,529)	-	-	(547)	30	(176)	(66)
Changes in consol-lidated entities	-	-	-	-	34	-	-
As of December 31	₩ 6,751	₩ 19	₩ 88	₩ -	₩ 12,034	₩ 12	₩ 88

In addition, the Group applied the practical expedient in K-IFRS 1109 that recognises an allowance based on 12-month ECLs for trade and other receivables. The Group uses provision matrix to calculate ECLs for trade and other receivables. The provision matrix is based on the Group's historical observed default rates. The Group will calibrate the matrix to adjust the historical credit loss experience with forward-looking information. The Group recognizes impairment losses(reversals) on provisions for impaired receivables as selling and administrative expenses or other income(expenses) in the consolidated statement of comprehensive income.

The aging of trade and other receivables as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
	Gross receivables	Allowance	Gross receivables	Allowance
Not overdue	₩ 434,001	₩ 775	₩ 434,656	₩ 706
Less than 3 months	7,484	309	9,616	250
Between 3 and 6 months	2,095	470	2,154	212
More than 6 months	8,231	5,304	15,956	10,966
	₩ 451,811	₩ 6,858	₩ 462,382	₩ 12,134

The Group has obtained collaterals and payment guarantees on certain trade and other receivables. Furthermore, customers of the Group are widely dispersed and not individually significant. Accordingly, the Group has assessed the exposure to credit risk on its trade and other receivables as low.

6. Other financial assets

Details of other financial assets as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
	Current	Non-current	Current	Non-current
Financial assets at AC (*1)	₩ 6,940	₩ 18	₩ 15,000	₩ 23
Financial assets at FVPL	-	25,602	1,875	18,392
Financial assets at FVOCI	-	10,764	-	9,648
	₩ 6,940	₩ 36,384	₩ 16,875	₩ 28,063

(*1) Certain other financial instruments have been pledged to third parties as of December 31, 2022 (see Note 31).

6. Other financial assets (cont'd)

Details of financial assets at FVPL as of December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Marketable equity securities:				
EuBiologics Co., Ltd.	₩	178	₩	701
Macro Genics, Inc.		1,242		2,778
Pharmabcine Co., Ltd. (*1)		-		1,562
Kumho HT, Inc.		129		306
Others		156		230
Non-marketable equity securities:				
BNH-POSCO Bio Healthcare Fund		1,000		1,000
HEMOTUNE (PS) (*3)		2,613		1,291
Others		281		281
Debt securities:				
Novel Pharma (RCPS)		2,261		2,005
Dxome Co., Ltd. (RCPS) (*2)		500		500
Rootee health, Inc. (RCPS)		400		400
KANAPH Therapeutics Inc. (RCPS)		11,208		6,997
NEX-I, Inc. (RCPS) (*4)		2,000		-
Feldan Therapeutics (convertible note) (*4)		1,427		-
Genece Health, Inc. (CB) (*4)		1,901		-
Others		306		2,216
	₩	25,602	₩	20,267

(*1) All of the equity interests of the entity are disposed for the year ended December 31, 2022.

(*2) The Group acquired the RCPS of the entity. The Group recognised the acquired financial assets at FVPL for RCPS according to K-IFRS No. 1109, as the Group is substantially limited in its access to the returns from ownership interest of the associate.

(*3) The non-marketable equity securities of the entity are additionally acquired for the year ended December 31, 2022.

(*4) The non-marketable debt securities of the entities are newly acquired for the year ended December 31, 2022.

Details of financial assets at FVOCI as of December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Marketable equity securities:				
HANIL HOLDINGS CO., LTD.	₩	2,604	₩	3,042
Non-marketable equity securities:				
Yonhap News Agency Co., Ltd.		163		163
CSTV Co., Ltd.		3,750		2,253
Channel A Co., Ltd.		1,328		1,058
Maeil Business Network Co., Ltd.		1,580		1,475
Genoplan Inc.		810		1,128
Cipherome, Inc.		520		520
Others		9		9
	₩	10,764	₩	9,648

7. Inventories

Details of inventories as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022					
	Acquisition cost		Valuation allowance		Carrying amount	
Merchandise	₩	78,466	₩	(4,248)	₩	74,218
Finished goods		49,490		(7,452)		42,038
Work-in-progress		207,633		(21,586)		186,047
Raw materials		97,169		(5,192)		91,977
Materials-in-transit		46,520		-		46,520
Stored goods		619		-		619
Others		990		-		990
	₩	480,887	₩	(38,478)	₩	442,409

	2021					
	Acquisition cost		Valuation allowance		Carrying amount	
Merchandise	₩	85,778	₩	(3,545)	₩	82,233
Finished goods		82,314		(12,832)		69,482
Work-in-progress		186,709		(11,576)		175,133
Raw materials		101,279		(2,605)		98,674
Materials-in-transit		28,254		-		28,254
Stored goods		785		-		785
Others		415		-		415
	₩	485,534	₩	(30,558)	₩	454,976

For the years ended December 31, 2022 and 2021, loss on valuation of inventories included in cost of sales is as follows (Korean won in millions):

	2022		2021	
Cost of sales:				
Loss on valuation and obsolescence of inventories	₩	10,848	₩	3,075

8. Investments in associates and joint ventures

Details of investments in associates and joint ventures as of December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022						
Investee	Location	Equity ownership (%)	Carrying amount		Acquisition cost		Net assets	
Associates								
Green Cross North America Inc. (*1)	Canada	46.85	₩	-	₩	-	₩	-
GLOBAL BIOINFRA No.2 PRIVATE EQUITY FUND.(*2)	Korea	-		-		-		-
Artiva Biotherapeutics, Inc. (*3)(*4)	America	8.43		4,991		10,502		4,514
Pet Platform 1st Association	Korea	46.73		478		500		478
Pet Platform No.2 Private Equity Fund	Korea	22.45		1,893		2,000		1,893
For Human Life 1st Private Equity Fund (*5)	Korea	60.31		70,403		73,795		70,403
RMG-KB BioAccess Fund L.P(*6)(*9)	Cayman Islands	39.20		1,533		3,146		1,533
Cyrus Therapeutics Inc. (*3)(*7)	Korea	8.52		4,493		5,000		1,913
Genece Health, Inc.(*8)	America	24.86		-		3		-
S&P Cosmetic Co., Ltd. (*8)	Korea	33.69		2,857		3,204		691
COERA, Inc.(*8)	America	27.40		22,984		25,510		22,984
CUREVO, Inc.(*10)	America	45.09		70,094		70,094		70,094
Joint venture								
WBNP Co., Ltd. (*8)(*9)	Korea	44.44		163		200		154
			₩	179,889	₩	193,954	₩	174,657

8. Investments in associates and joint ventures (cont'd)

(*1) The entity was transferred to assets held for sale as the Group decided to liquidate the entity before the prior reporting periods (see Note 37).

(*2) The entity is excluded from investments in associates as the entity has been liquidated for the year ended December 31, 2022.

(*3) The entities are included in investments in associates, as the Group can exercise significant influence on financial and operating policies even though the Group owns less than 20% equity interest.

(*4) The Group applied the equity method in respect of the Group's voting rights in the event of liquidation, despite equity ownership in the entity totalling 8.43%, inclusive of both common and preferred shares. In addition, the Group's equity ownership in the entity is decreased due to the exercise of stock options by executives and employees of the entity.

(*5) The entity is included in investments in associates as the Group is a limited partner and does not have a power to control the entity, even though the Group owns over 50% of total voting rights.

(*6) The Group entered into an agreement to acquire shares of the entity up to a maximum amount of USD 30,000,000 and acquired shares of USD 2,371,841 as of December 31, 2022.

(*7) The Group newly acquires common shares of Cyrus Therapeutics Inc. The equity ownership is based on common and convertible shares. The Group owns 5.05% in case on a fully diluted, as-converted and as-exercised basis on redeemable convertible preferred shares.

(*8) The Group newly and additionally acquires the equity interests for the year ended December 31, 2022.

(*9) The Group's equity ownership is changed due to the differential increasing paid in capital for the year ended December 31, 2022

(*10) The Group's equity interest is changed due to the differential increasing paid in capital for the year ended December 31, 2022 and transferred to investments in associate as the Group does not have a power to control.

		2021			
Investee	Location	Equity ownership (%)	Carrying amount	Acquisition cost	Net assets
Associates					
Green Cross North America Inc.	Canada	46.85	₩ -	₩ -	₩ -
GLOBAL BIOINFRA No.2 PRIVATE EQUITY FUND.	Korea	49.50	124	-	413
Artiva Biotherapeutics, Inc.	America	8.50	7,365	10,502	6,872
Pet Platform 1st Association	Korea	46.73	484	500	484
Pet Platform No.2 Private Equity Fund	Korea	22.45	1,941	2,000	1,941
For Human Life 1st, Private Equity Fund	Korea	60.31	72,939	73,795	72,939
RMG-KB BioAccess Fund L.P	Cayman Islands	49.00	-	352	-
Joint venture					
WBNP Co., Ltd.	Korea	40.00	46	100	46
			₩ 82,899	₩ 87,249	₩ 82,695

8. Investments in associates and joint ventures (cont'd)

Changes in investments in associates and joint ventures for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022				
	January 1	Acquisi--tions	Share of profit(loss) to associates	Others (*1)	December 31
GLOBAL BIOINFRA No.2 PRIVATE EQUITY FUND	₩ 124	₩ -	₩ 27	₩ (151)	₩ -
Artiva Biotherapeutics, Inc.	7,365	-	(3,421)	1,047	4,991
Pet Platform 1st Association	484	-	(6)	-	478
Pet Platform No.2 Private Equity Fund	1,941	-	(48)	-	1,893
For Human Life 1st, Private Equity Fund	72,939	-	(10,228)	7,692	70,403
RMG-KB BioAccess Fund L.P	-	2,794	(1,083)	(178)	1,533
Cyrus Therapeutics Inc.	-	5,000	(507)	-	4,493
Genece Health, Inc.	-	3	(3)	-	-
S&P Cosmetic Co., Ltd.	-	3,204	(347)	-	2,857
CUREVO, Inc.	-	70,094	-	-	70,094
COERA, Inc.	-	25,510	(2,499)	(27)	22,984
WBNP Co., Ltd.	46	100	17	-	163
	₩ 82,899	₩ 106,705	₩ (18,098)	₩ 8,383	₩ 179,889

(*1) Dividend received, equity adjustments of investments in associates and disposals are included.

	2021				
	January 1	Acquisi--tions	Share of profit(loss) to associates	Others (*1)	December 31
Green Cross Cell Co., Ltd.	₩ 34,622	₩ -	₩ 79,989	₩ (114,611)	₩ -
GLOBAL BIOINFRA No.2 PRIVATE EQUITY FUND	5,298	-	5,024	(10,198)	124
Artiva Biotherapeutics, Inc.	4,250	4,525	(2,160)	750	7,365
Pet Platform 1st Association	489	-	(5)	-	484
Pet Platform No.2 Private Equity Fund	1,994	-	(53)	-	1,941
For Human Life 1st, Private Equity Fund	-	73,795	(856)	-	72,939
RMG-KB BioAccess Fund L.P	-	352	(352)	-	-
WBNP Co., Ltd.	-	100	(54)	-	46
	₩ 46,653	₩ 78,772	₩ 81,533	₩ (124,059)	₩ 82,899

(*1) Dividend received, equity adjustments of investments in associates and disposals are included.

8. Investments in associates and joint ventures (cont'd)

Summarised financial information of the associates and joint ventures as of and for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022			
	Total Assets	Total liabilities	Sales	Profit (loss) for the year
Artiva Biotherapeutics, Inc.	₩ 168,656	₩ 72,567	₩ 6,369	₩ (75,827)
Pet Platform 1st Association	1,024	-	-	(11)
Pet Platform No.2 Private Equity Fund	8,430	-	1	(215)
For Human Life 1st, Private Equity Fund (*1)	133,398	16,665	25,702	(11,698)
RMG-KB BioAccess Fund L.P	3,953	42	-	(2,895)
Cyrus Therapeutics Inc.	22,878	409	-	(5,958)
Genece Health, Inc.	6,017	6,515	-	(519)
S&P Cosmetic Co., Ltd. (*2)	4,155	2,103	502	19
CUREVO, Inc. (*2)	78,826	5,863	-	-
COERA, Inc.	99,057	15,166	7,144	(9,122)
WBNP Co., Ltd.	532	186	846	36

(*1) Consolidated financial information, including subsidiaries

(*2) Profit (loss) after the date at acquisitions of investments in associate is included.

	2021			
	Total Assets	Total liabilities	Sales	Profit (loss) for the year
Green Cross Cell Co., Ltd. (*1)	₩ -	₩ -	₩ 40,072	₩ 4,148
GLOBAL BIOINFRA No.2 PRIVATE EQUITY FUND	836	1	445	10,190
Artiva Biotherapeutics, Inc.	201,447	50,231	2,291	(60,953)
Pet Platform 1st Association	1,035	-	-	(11)
Pet Platform No.2 Private Equity Fund	8,646	1	1	(236)
For Human Life 1st, Private Equity Fund (*2)	132,376	11,935	7,271	(6,680)
RMG-KB BioAccess Fund L.P	22	113	-	(783)
WBNP Co., Ltd.	166	51	26	(135)

(*1) Profit (loss) before the acquisition date of merger to GC CELL CORPORATION (formerly, Green Cross LabCell Co., Ltd.), a subsidiary of the Company, was included for the year ended December 31, 2021.

(*2) Consolidated financial information, including subsidiaries

Unrecognised share of loss to associates for the years ended December 31, 2022 and 2021, and the accumulated loss as of December 31, 2022 and 2021 due to the discontinued application of equity method accounting are as follows (Korean won in millions):

	2022		2021	
	Unrecognised loss	Unrecognised accumulated loss	Unrecognised loss	Unrecognised accumulated loss
RMG-KB BioAccess Fund L.P	₩ -	₩ -	₩ (32)	₩ (32)
Genece Health, Inc.	(126)	(126)	-	-

9. Property, plant and equipment

Changes in property, plant and equipment for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022					
	Land (*3)	Buildings and struc-tures (*3)	Machinery (*3)	Other tangible assets	Construction -in-progress	Total
As of January 1	₩ 18,025	₩ 481,927	₩ 127,995	₩ 20,948	₩ 150,176	₩ 799,071
Acquisitions and capitalized cost (*1)	-	100	21,104	4,686	44,459	70,349
Transfers (*2)	(642)	66,837	28,775	1,725	(91,301)	5,394
Disposals	-	(1,018)	(1,148)	(711)	-	(2,877)
Depreciation	-	(14,253)	(25,628)	(6,727)	-	(46,608)
Changes in consolidated entities	-	(349)	(1,402)	(1,181)	-	(2,932)
Foreign currency translation	-	-	(13)	9	-	(4)
As of December 31	₩ 17,383	₩ 533,244	₩ 149,683	₩ 18,749	₩ 103,334	₩ 822,393
Acquisition cost	₩ 17,383	₩ 638,916	₩ 369,785	₩ 52,715	₩ 106,149	₩ 1,184,948
Accumulated depreciation	-	(105,109)	(219,820)	(33,966)	-	(358,895)
Accumulated impairment loss	-	(563)	(282)	-	(2,815)	(3,660)

(*1) Unpaid amount regarding acquisitions of PP&E for the year ended December 31, 2022 is ₩17,506 million.

(*2) Transfers with investment properties are included as of December 31, 2022.

(*3) Certain assets have been pledged as collateral for the Group's liabilities as of December 31, 2022 (see Note 31).

	2021					
	Land (*4)	Buildings and struc-tures (*4)	Machinery (*4)	Other tangible assets	Construction -in-progress	Total
As of January 1	₩ 17,976	₩ 430,034	₩ 127,351	₩ 13,266	₩ 85,095	₩ 673,722
Acquisitions and capitalized cost (*1)	-	4,624	13,465	6,922	78,603	103,614
Transfers (*2)(*3)	29	6,514	4,823	4,082	(13,523)	1,925
Disposals	-	(1,412)	(137)	(296)	(5)	(1,850)
Depreciation	-	(12,539)	(23,980)	(5,265)	-	(41,784)
Changes in consolidated entities	20	54,706	6,493	2,220	6	63,445
Foreign currency translation	-	-	(20)	19	-	(1)
As of December 31	₩ 18,025	₩ 481,927	₩ 127,995	₩ 20,948	₩ 150,176	₩ 799,071
Acquisition cost	₩ 18,025	₩ 573,319	₩ 333,608	₩ 51,784	₩ 152,991	₩ 1,129,727
Accumulated depreciation	-	(90,829)	(205,331)	(30,836)	-	(326,996)
Accumulated impairment loss	-	(563)	(282)	-	(2,815)	(3,660)

(*1) Unpaid amount regarding acquisitions of PP&E for the year ended December 31, 2021 was ₩5,881 million.

(*2) Transfer from the inventories was included in connection with changes of theirs use for the year ended December 31, 2021.

(*3) Transfers to the intangible assets and from the investment properties were included for the year ended December 31, 2021.

(*4) Certain assets had been pledged as collateral for the Group's liabilities as of December 31, 2021.

9. Property, plant and equipment (cont'd)

The Group recorded construction-in-progress in the amount of ₩521 million and ₩6,377 million regarding the construction of buildings and manufacturing facilities for the years ended December 31, 2022 and 2021, respectively. In addition, ₩732 million and ₩1,646 million of construction-in-progress has been added from borrowing costs capitalization for the years ended December 31, 2022 and 2021, respectively. Interest rate used to calculate the borrowing costs capitalization is 1.97% and 1.99% for the years ended December 31, 2022 and 2021, respectively.

10. Intangible assets

Changes in intangible assets for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022				
	Goodwill	Development costs (*1)	Industrial property rights	Other intangible assets	Total
As of January 1	₩ 142,475	₩ 77,691	₩ 22,702	₩ 34,537	₩ 277,405
Acquisitions and capitalized cost (*2)	-	16,349	3,993	25,110	45,452
Transfer	-	-	2,860	(2,860)	-
Disposal	-	-	(22)	-	(22)
Amortization	-	(1,687)	(3,913)	(2,418)	(8,018)
Foreign currency translation	-	-	-	99	99
Changes in consolidated entities	-	-	(318)	(3,035)	(3,353)
As of December 31	₩ 142,475	₩ 92,353	₩ 25,302	₩ 51,433	₩ 311,563
Acquisition cost	₩ 151,221	₩ 143,481	₩ 45,157	₩ 65,198	₩ 405,057
Accumulated amortization	-	(19,554)	(19,638)	(13,458)	(52,650)
Accumulated impairment loss	(8,746)	(31,574)	(217)	(307)	(40,844)

(*1) All capitalised development costs are internally developed.

(*2) Unpaid amount regarding acquisitions of intangible assets for the year ended December 31, 2022 is ₩8,787 million.

	2021				
	Goodwill	Development costs (*1)	Industrial property rights	Other intangible assets	Total
As of January 1	₩ 10,065	₩ 67,702	₩ 20,264	₩ 11,532	₩ 109,563
Acquisitions and capitalized cost	-	9,355	3,832	7,837	21,024
Transfer (*2)	-	-	2,036	(1,966)	70
Disposal	-	-	(86)	-	(86)
Amortization	-	(1,151)	(3,360)	(1,100)	(5,611)
Foreign currency translation	-	-	-	133	133
Changes in consolidated entities	132,410	1,785	16	18,101	152,312
As of December 31	₩ 142,475	₩ 77,691	₩ 22,702	₩ 34,537	₩ 277,405
Acquisition cost	₩ 151,221	₩ 127,132	₩ 38,775	₩ 45,881	₩ 363,009
Accumulated amortization	-	(17,867)	(15,856)	(11,037)	(44,760)
Accumulated impairment loss	(8,746)	(31,574)	(217)	(307)	(40,844)

(*1) All capitalised development costs were internally developed.

(*2) Transfer from the PP&E was included for the year ended December 31, 2021.

10. Intangible assets (cont'd)

Details of development costs as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	Projects		2022		2021	Residual amortization period
Under developing	Blood product (1 case) (*1)	₩	45,683	₩	36,157	-
	Others (2 cases) (*2)		27,958		21,135	-
		₩	73,641	₩	57,292	
Development completed	Vaccine preparation (4 cases)		18,386		19,922	4 ~ 19 years
	Others (1 case) (*2)		326		477	2 years
		₩	18,712	₩	20,399	
	Total	₩	92,353	₩	77,691	

(*1) Blood product is the development of therapeutic drugs for primary immunodeficiency disorders. IV-Globulin-SN is currently undergoing the approval by FDA.

(*2) Others include development projects for hunter syndrome, anticancer aids and adjuvant therapy for pancreatic cancer.

Detail of impairment loss for each of project for the year ended December 31, 2022 is as follows (Korean won in millions)

	Projects	Evaluation method of recoverability		Current year		Accumulated amount
Development costs	Blood product	Value in use	₩	-	₩	18,272
	Others	Value in use		-		13,302
			₩	-	₩	31,574

No impairment losses were recognised as the recoverable amount of relating assets exceeds its carrying amount as a result of the impairment test assessing to the present value of future cash flows (value in use) under the assumption that those 3 projects being developed will obtain permissions from the regulatory authority in 2023 ~ 2027. The projection of cash flows is based on the financial budgets and the discount rate are 8.95% ~ 11.56%. The projection periods are estimated by useful life of related assets and the cash flows beyond useful life is not tracked.

Research and development costs (recognised as an expense) for the years ended December 31, 2022 and 2021 are ₩191,347 million and ₩146,030 million, respectively.

10. Intangible assets (cont'd)

As of December 31, 2022, goodwill has been allocated to the lowest level unit within the Group assessable to the information on goodwill for internal control purposes. This unit is not at a higher level than the operating segments of the Group mentioned in Note 3.

Goodwill allocated to each operating segments as of December 31, 2022 and 2021, which is an individual CGU, are as follows (Korean won in millions):

		2022		2021
Vaccine business unit	₩	1,633	₩	1,633
GC Wellbeing Co., Ltd. (formerly, Green Cross Wellbeing Co., Ltd.)		6,352		6,352
Invac Pharm Corp.		1,315		1,315
GC CELL CORPORATION		132,410		132,410
Others		765		765
	₩	142,475	₩	142,475

Goodwill is tested for impairment annually. Value in use assessed as discounted cash flow projections generated from each CGU is used in measuring the recoverable amount of each CGU that makes up the operating segments.

The key assumption used in the estimation of the recoverable amount for the year ended December 31, 2022 is as follows

	GC CELL CORPORATION
Discount rate	11.37%
Perpetuity growth rate	1.00%

The values assigned to the key assumptions represent management's assessment of future trends in the relevant industries and have been based on historical data from both external and internal sources.

Cash flow projections in forecasting periods are based on experience, actual business operation results and financial budgets approved by management. Cash flow projections after forecasting periods are based on a perpetuity growth rate less than an average long term growth rate of relevant industries that the CGU belongs to.

Discount rate of each CGU based on weighted average cost of capital is used in measuring the recoverable amount of each CGUs. WACC is measured by considering beta and debt ratio of peer companies.

No impairment losses are recognised as the estimated recoverable amount of the GC CELL CORPORATION exceeded its carrying amount by approximately ₩5,071 million. Management has identified that a reasonably possible change in two key assumptions could cause the carrying amount to exceed the recoverable amount. The following table shows the amount by which these two assumptions would need to change individually for the estimated recoverable amount to be equal to the carrying amount.

	GC CELL CORPORATION
Discount rate	11.47% (0.10%p increase)
Perpetuity growth rate	0.92% (0.08%p decrease)

11. Investment property

Changes in investment property for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022					
	Land		Buildings		Total	
As of January 1	₩	5,301	₩	14,429	₩	19,730
Transfer (*1)		642		(6,036)		(5,394)
Depreciation		-		(274)		(274)
As of December 31	₩	5,943	₩	8,119	₩	14,062
Acquisition cost	₩	5,943	₩	13,119	₩	19,062
Accumulated depreciation		-		(5,000)		(5,000)

(*1) Transfer with the PP&E is included for the year ended December 31, 2022.

	2021					
	Land		Buildings		Total	
As of January 1	₩	5,330	₩	16,667	₩	21,997
Transfer (*1)		(29)		(1,821)		(1,850)
Depreciation		-		(417)		(417)
As of December 31	₩	5,301	₩	14,429	₩	19,730
Acquisition cost	₩	5,301	₩	20,294	₩	25,595
Accumulated depreciation		-		(5,865)		(5,865)

(*1) Transfer to the PP&E was included for the year ended December 31, 2021.

Gain and loss from investment property for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
Gain:				
Lease income	₩	1,265	₩	1,836
Loss:				
Depreciation		(274)		(417)

The fair value of the investment property is not measured as the Group determines that changes of the fair value are not significant as of December 31, 2022.

12. Other assets and other liabilities

Details of other assets as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
	Current	Non-current	Current	Non-current
Advance payments	₩ 5,314	₩ 2,918	₩ 4,571	₩ 3,470
Prepaid expenses (*1)	3,623	450	3,120	644
Current tax assets	65	-	4	-
Value added tax refunds	534	-	155	-
	₩ 9,536	₩ 3,368	₩ 7,850	₩ 4,114

(*1) Costs to fulfil a contract for the years ended December 31, 2022 and 2021 are ₩280 million respectively.

Details of other liabilities as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
	Current	Non-current	Current	Non-current
Advance from customers (*1)	₩ 10,091	₩ 8,644	₩ 11,828	₩ 8,294
Financial guarantee debt	19	-	-	-
Value added tax withheld	4,431	-	8,984	-
Unearned revenue (*1)	7,084	14,049	7,730	16,296
Withholdings	6,464	-	5,821	-
Withholdings for certain research and development (*2)	37	-	150	-
	₩ 28,126	₩ 22,693	₩ 34,513	₩ 24,590

(*1) Contract liabilities of ₩29,988 million and ₩30,620 million are included as of December 31, 2022 and 2021, respectively (see Note 30).

(*2) The Group received government grants regarding R&D projects for the BCG vaccine and Anthrax Vaccine on the Korea Disease Control and Prevention Agency.

13. Trade and other payables

Details of trade and other payables as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
	Current	Non-current	Current	Non-current
Trade payables	₩ 121,270	₩ -	₩ 119,541	₩ -
Other payables	20,526	-	9,720	-
Accrued expenses	102,066	14,259	85,781	6,916
Withholding deposits	159	-	5,605	-
Leasehold deposits received	-	739	-	1,121
	₩ 244,021	₩ 14,998	₩ 220,647	₩ 8,037

14. Borrowings

Details of borrowings as of December 31, 2022 and 2021 are as follows (Korean won in millions):

		Annual interest rate (%)	2022	2021
Short-term borrowings:				
The Export-Import Bank of Korea	Line of credit	1.58 ~ 2.89	₩ 55,000	₩ 3,800
Shinhan Bank	Trade financing	4.78	20,000	3,500
Korea Development Bank	Line of credit	4.71 ~ 5.11	50,000	15,200
	General loan	3.05 ~ 5.27	34,000	34,000
Woori Bank	General loan	5.69	10,000	15,000
KEB Hana Bank.	Line of credit	3.93	2,000	1,200
	General loan	5.15 ~ 6.29	6,000	10,000
NongHyup Bank	General loan	5.79	5,000	8,000
Citibank Korea Inc.	General loan	-	-	8,000
Industrial Bank of Korea	Trade financing	-	-	2,400
			₩ 182,000	₩ 101,100
Current portion of long-term borrowings:				
Shinhan Bank	General loan	4.15	416	588
Public offering bonds	General bonds	-	-	119,951
Convertible bonds	Convertible bonds	-	-	3,736
The Export-Import Bank of Korea	General loan	1.85	5,000	-
			₩ 5,416	₩ 124,275
Long-term borrowings:				
Public offering bonds	General bonds	1.66 ~ 2.30	259,629	259,430
Genovation I Private Equity Fund	Convertible bonds	-	5,819	12,913
Convertible bonds	Convertible bonds	-	12,741	-
Woori Bank	Facility loan	-	-	3,000
The Export-Import Bank of Korea	General loan	-	-	5,000
Shinhan Bank	Facility loan	3.64	608	-
			₩ 278,797	₩ 280,343
			₩ 466,213	₩ 505,718

14. Borrowings (cont'd)

Details of bonds issued by the Group as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	Date of maturity	Annual interest rate (%)		2022		2021
41-2 non-guaranteed bonds	2022.06.09	-	₩	-	₩	60,000
42-1 non-guaranteed bonds	2022.05.27	-		-		60,000
42-2 non-guaranteed bonds	2024.05.27	1.93		60,000		60,000
43-1 non-guaranteed bonds	2024.05.10	1.66		120,000		120,000
43-2 non-guaranteed bonds	2026.05.11	2.30		80,000		80,000
1st registered convertible bonds (*1)	2027.12.22	-		10,529		26,321
5th non-guaranteed convertible bonds	2022.11.29	-		-		3,801
4 non-registered convertible bonds (*2)	2027.02.04	-		30,000		-
			₩	300,529	₩	410,122
Discount on bonds payable				(371)		(619)
Conversion right adjustment				(21,969)		(13,473)
Total			₩	278,189	₩	396,030
Current bonds			₩	-	₩	123,687
Non-current bonds				278,189		272,343

(*1) The details of the convertible bond as of December 31, 2022 are as follows.

	Information of convertible bond of GC Genome Co., Ltd (formerly, Green Cross Genome Co., Ltd.)
General:	
Bond	1st registered private convertible bond
Issue date	December 22, 2020
Maturity date	December 22, 2027
Issue value (Korean Won)	20,000,000,000
Interest rate	Coupon rate 0%, Rate of yield to maturity 4%
Payment	The principal amount of and any accrued and unpaid compound interest at a rate of yield to maturity on the convertible bonds except for those converted shall be paid in full on the maturity date.
Redemption:	
Date of early redemption	December 22, 2024 and every three months thereafter
Redemption price	The holders of convertible bonds have a right to call for repurchasing at a price equal to 100% of the principal amount of convertible bonds, together with accrued and unpaid interest.
Conversion:	
Conversion to	Common share registered
Conversion period	From the date one year after the issue date to the date one month before the maturity date
Conversion price	100% of the principal amount of convertible bonds (₩5,625 per share)
Adjustment of conversion ratio	- If the company increases paid in capital, or issues stock-related debentures at a price below the conversion price, the conversion price is adjusted to that price. - The event decrease in capital, stock split or merge, non-cash capital increase and stock dividend, the conversion ratio/price is adjusted if necessary. - If a company's shares are listed before the execution of conversion right, 70% of the public offering price per share falls below the conversion price, the conversion price is adjusted to 70% of the public offering price. - The event of merger of the company, comprehensive stock exchange, the conversion ratio/price is adjusted if necessary (in case of merger with SPEC, 70% of the evaluated price per share falls below the conversion price, the conversion price is adjusted to 70% of the public offering price).

14. Borrowings (cont'd)

(*2) The details of the convertible bond as of December 31, 2022 are as follows.

	Information of convertible bond of GC Medical Science Co., Ltd (formerly, Green Cross Medical Science Co., Ltd.)
General:	
Bond	4th non-registered, non-guaranteed private convertible bond
Issue date	February 4, 2022
Maturity date	February 4, 2027
Issue value (Korean won)	KRW 30,000,000,000
Interest rate	Coupon rate 0%, Rate of yield to maturity 0%
Payment	The principal amount of the convertible bonds except for those converted shall be paid in full on the maturity date. And, if the repayment date is not a banking day, repayment is made on the next banking day and interest after the principal repayment date is not added.
Redemption:	
Date of early redemption	After 24 months from the date of initial issuance (February 4, 2024) and every three months thereafter
Early redemption	The holders of convertible bonds has a right to call for repurchasing at an obtained price by adding 0.0% annual early redemption rate to the principal amount of convertible bonds.
Repurchase:	
Repurchase by	The issuer or one designated by the issuer
Repurchase period	Every months between the date (February 4, 2023) after 12 months from the date of initial issuance and the date (February 4, 2024) after 24 months from the date of initial issuance.
Scale of Repurchase	Up to 30% of bonds held by bondholders (up to KRW 9,000,000,000)
Exercise	The right to sell is limited up to 30% of the principal amount of the convertible bonds at amount of interest, 1% annually, added to par value from initial issuance date to an exercised date of call option.
Conversion:	
Conversion to	Common share registered
Conversion period	From February 4, 2023 to January 4, 2027
Conversion price	KRW 6,603 per share
Adjustment of conversion ratio	- If the company increases paid in capital, or issues stock-related debentures at a price below the conversion price, the conversion price is adjusted to that price. - The conversion price is adjusted according to the weighted average stock price for 6 months after the initial bond issuance date and every 6 months thereafter. However, the adjusted conversion price must be at least 80% of the conversion price at the date of initial issuance (if the conversion price has already been adjusted for reasons such as discounted issuance of new shares before the adjustment date, the conversion price should be calculated by taking this into account) - If the adjusted conversion price is higher than before the adjustment the new adjustment price becomes the conversion price. However, the upper limit of the adjusted conversion price is the initial conversion price (if the conversion price has already been adjusted for reasons such as discounted issuance of new shares or capital reduction before the adjustment date, the initial conversion price should be calculated by taking this into account).

The liability component of convertible bonds, compound financial instruments embedded derivatives of early redemption options, conversion options and buy back options, is initially recognised based on measurement of each fair value of the general bonds and options. The general bonds are subsequently measured at amortised cost using the effective interest method. The fair value of options related to redemption and conversion right are recognised as derivative financial liabilities and the fair value of option related to buy back right is derivative financial assets, respectively.

In addition, the changes of fair value of options regarding conversion bonds are recognised as finance income(loss) as of December 31, 2022 (see Note 17,27).

14. Borrowings (cont'd)

Repayment schedule as of December 31, 2022 is as follows (Korean won in millions):

		Amount
2023	₩	187,416
2024		180,608
After 2025		120,529
	₩	488,553

Detail of the conversion ratio of convertible bond as of December 31, 2022 is as follows (Korean won except number of shares):

	Issuer		Conversion price	Number of shares to be issued
1 registered convertible bonds	GC Genome Co., Ltd. (formerly, Green Cross Genome Co., Ltd.)	₩	5,625	1,422,222 shares
4 non-registered convertible bonds (*1)	GC Medical Science Co., Ltd. (formerly, Green Cross Medical Science Co., Ltd.)		6,603	4,543,389 shares

(*1) The conversion price and the number of shares to be issued are changed to ₩5,562 and 5,393,743 shares, respectively, due to the conversion price adjustment on February 4, 2023.

15. Provisions

Details of provisions as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022				2021			
	Current		Non-current		Current		Non-current	
Provisions for returned goods (*1)	₩	30,916	₩	-	₩	28,871	₩	1,402
Provisions for restoration costs		-		1,389		-		798
	₩	30,916	₩	1,389	₩	28,871	₩	2,200

(*1) The Group recognises provisions for returns based on past experience of returns of finished goods and merchandise.

Change in provisions for the year ended December 31, 2022 is as follows (Korean won in millions):

	As of January 1		Increase		As of December 31	
Provisions for returned goods	₩	30,273	₩	643	₩	30,916
Provisions for restoration costs		798		591		1,389
	₩	31,071	₩	1,234	₩	32,305

The Group has been participating in Emission Trading Scheme in accordance with the Act on Allocation and Trading of Greenhouse Gas Emission Permits. The quantities of emission rights for the 3rd planning periods (2021~2025) granted free of charge as of December 31, 2022, is as follows (in tCO2-eq):

	2021 (*1)	2022 (*2)	2023	2024	2025
Allocation with free of charge	65,744	44,314	44,314	43,899	43,899

(*1) In May 2022, 21,430 tCO2-eq of emissions certificates for 2021 regarding new business sites are additionally allocated to the Group.

(*2) The Group plans to submit additional allocation of emissions certificates for 2022 regarding new business sites and the additional allocation will be made in May 2023.

15. Provisions (cont'd)

Changes in the quantities of the emission rights for the years ended December 31, 2022 and 2021 are as follows (in tCO2-eq):

	2022	2021
As of January 1	3,811	11,229
Free allocation	44,314	44,314
Additional allocation (*1)	21,797	21,430
Purchase(disposal)	-	(5,000)
Withdrawal to the government (*2)	(66,851)	(68,162)
As of December 31	3,071	3,811

(*1) In May 2022, 21,430 tCO2-eq of emissions certificates for 2021 regarding new business sites are additionally allocated to the Group. In addition, the estimated amount of additional allocation for 2022 subject to change as the result of submission for additional allocation will be made in May 2023.

(*2) The estimated withdrawal to the government for 2022 is subject to change with the result of submission to government in March 2023.

The Group emitted greenhouse gas of 68,162 tCO2-eq for the year ended December 31, 2021, and the estimated quantity of emission is 66,851 tCO2-eq for the year ended December 31, 2022. The Group's estimated quantity of emission is below the limit of 69,992 tCO2-eq, the total emission right of carry forwarded, newly allocated and purchased, and therefore the provision related to this grant as at 31 December 2022 is zero ("0"). No emission permits pledged as collateral as of December 31, 2022.

16. Pension benefits

Changes in the defined benefit liabilities for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
As of January 1	₩	(7,645)	₩	5,711
Current service costs		23,221		17,739
Interest expenses		4,361		3,016
Benefits paid		(2,162)		(293)
Transfers		343		331
Contributions		(28,155)		(36,000)
Interest income		(4,580)		(2,873)
Changes in consolidated entities		(24)		1,712
Re-measurement of the net defined benefit liabilities:				
Actuarial gain and loss arising from changes in -				
- demographic assumptions		805		-
- financial assumptions		2,061		(3,230)
- experience adjustments		1,257		5,134
- return on plan assets		1,564		1,108
As of December 31	₩	(8,954)	₩	(7,645)
Present value of the defined benefit obligation	₩	169,838	₩	153,537
Fair value of plan assets		(178,792)		(161,182)
Net defined benefit assets	₩	(10,125)	₩	(9,142)
Net defined benefit liabilities		1,171		1,497

16. Pension benefits (cont'd)

Net benefit expenses (recognised in profit or loss) for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
DB:				
Current service costs	₩	23,221	₩	17,739
Interest expenses		4,361		3,016
Interest income		(4,580)		(2,873)
	₩	23,002	₩	17,882
DC, etc.		503		351
	₩	23,505	₩	18,233

Requirements for contribution by the Group are based on actuarial valuations conducted by an independent actuary. The Group expects to contribute ₩18,546 million to the defined benefit plan in 2023.

Plan assets as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
Time deposits	₩	31,650	₩	19,454
Securities		100,157		105,100
Others		46,985		36,628
	₩	178,792	₩	161,182

Principal actuarial assumptions as of December 31, 2022 and 2021 are as follows:

	2022	2021
Discount rate	5.31 ~ 5.36%	2.80 ~ 3.04%
Future salary growth rate	4.56 ~ 6.60%	3.50 ~ 5.83%

In order to measure the present value of the defined benefit obligations, the Group used the discount rate determined by reference to market yields at the end of the reporting period on high quality corporate bonds consistent with the currency and estimated term of the defined benefit obligations. The weighted average duration of defined benefit obligations as of December 31, 2022 and 2021 are 6.71 ~ 10.01 and 6.11 ~ 10.62 years, respectively.

A quantitative sensitivity analysis for significant assumptions as of December 31, 2022 is as follows (Korean won in millions):

	Present value of defined benefit obligations			
	Increase		Decrease	
Discount rate (change of 1% point)	₩	(12,755)	₩	14,766
Rate of future salary growth rate(change of 1% point)		14,575		(12,840)

The above the sensitivity analysis does not consider all possible variances in cash flows generated from the defined benefit plan, as it is intended to provide an approximate sensitivity analysis based on the assumptions used.

17. Derivatives

Derivative financial instruments as of December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Derivative assets (*1)	₩	2,281	₩	-
Derivative liabilities (*2)		21,522		5,253

(*1) The fair value of the repurchase right embedded in convertible bonds, issued by GC Medical Science Co., Ltd. (formerly, Green Cross Medical Science Co., Ltd.), subsidiary of the Group, is recognised in financial assets at fair value through profit or loss as of December 31, 2022 (see Note 14).

(*2) The rights of early redemption and conversion embedded in convertible bonds are recognised in financial liabilities at fair value through profit or loss (see Note 14).

18. Issued capital

Details of ordinary shares as of December 31, 2022 and 2021 are as follows (Korean won in millions, except par value per share amounts):

		2022		2021
Number of shares authorized		30,000,000 shares		30,000,000 shares
Par value per share (Korean won)	₩	5,000	₩	5,000
Number of shares issued		11,686,538 shares		11,686,538 shares
Issued capital	₩	58,433	₩	58,433

19. Share premium

Details of share premium as of December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Additional paid-in capital	₩	291,835	₩	291,835
Gain on capital reduction		5,616		5,616
Gain on disposal of treasury shares		11,792		11,792
Other capital surplus		84,288		89,186
	₩	393,531	₩	398,429

20. Other components of equity

Other components of equity as of December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Treasury shares	₩	(35,702)	₩	(35,702)

21. Accumulated other comprehensive income (loss)

Components of accumulated other comprehensive income as of December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Gain (loss) on valuation of financial assets at FVOCI	₩	(259)	₩	(1,284)
Share of other comprehensive income of associates		8,987		453
Gain (loss) on overseas operations translation		(334)		(303)
	₩	8,394	₩	(1,134)

22. Retained earnings

Details of retained earnings as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
Legal reserve (*1)	₩	22,615	₩	20,333
Voluntary reserve		761,000		681,000
Unappropriated retained earnings		119,852		166,020
	₩	903,467	₩	867,353

(*1) In accordance with the Korean Commercial Code, an amount equal to at least 10% of cash dividends is required to be appropriated as a legal reserve until the reserve equals 50% of issued capital. The legal reserve may not be utilized for cash dividends but may only be used to offset a deficit, if any, or be transferred to capital.

23. Earnings per share

Basic earnings per share for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions, except earnings per share amounts):

(i) Basic earnings per share

	2022		2021	
Profit attributable to equity holders of the parent	₩	65,453	₩	123,212
Profit attributable to ordinary shareholders		65,453		123,212
Weighted-average number of ordinary shares (Shares)		11,413,178		11,413,178
Earnings per share (Korean won)	₩	5,735	₩	10,796

(ii) Weighted-average number of ordinary shares

	2022	2021
Issued ordinary shares as of January 1 (Shares)	11,686,538	11,686,538
Effect of treasury shares held (Shares)	(273,360)	(273,360)
Weighted-average number of ordinary shares (Shares)	11,413,178	11,413,178

Diluted earnings per share are equal to basic earnings per share.

24. Sales and cost of sales

Details of sales and cost of sales for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
Sales:				
Merchandise	₩	541,663	₩	530,107
Finished goods		915,245		798,596
Services		254,405		209,123
	₩	1,711,313	₩	1,537,826
Cost of sales:				
Merchandise	₩	435,378	₩	419,210
Finished goods		548,953		475,136
Services		145,177		122,886
	₩	1,129,508	₩	1,017,232

24. Sales and cost of sales (cont'd)

Revenue from contracts with customers of the Group for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022			
	Items	Domestic	Overseas	Total
Manufacture and sale of pharmaceuticals	Blood product and others	₩ 329,493	₩ 90,922	₩ 420,415
	OTC and others	141,953	512	142,465
	Ordinary medicine and others	325,556	52,190	377,746
	Vaccine product and others	137,902	118,518	256,420
	Others	259,590	27,849	287,439
Diagnosis and analysis	Diagnostic reagents and others	246,011	16,167	262,178
Other segments		21,543	552	22,095
		₩ 1,462,048	₩ 306,710	₩ 1,768,758
Consolidation adjustments				(57,445)
Consolidated income statements				₩ 1,711,313

	2021			
	Items	Domestic	Overseas	Total
Manufacture and sale of pharmaceuticals	Blood product and others	₩ 312,885	₩ 61,318	₩ 374,203
	OTC and others	174,174	237	174,411
	Ordinary medicine and others	283,655	32,546	316,201
	Vaccine product and others	155,939	107,229	263,168
	Others	210,773	37,062	247,835
Diagnosis and analysis	Diagnostic reagents and others	187,367	-	187,367
Other segments		21,503	546	22,049
		₩ 1,346,296	₩ 238,938	₩ 1,585,234
Consolidation adjustments				(47,408)
Consolidated income statements				₩ 1,537,826

The Group recognised the impairment loss of ₩2,246 million (prior reporting period: ₩7,054 million) on trade receivables and other contract assets from the contracts with customers, representing in selling and administrative expenses in the consolidated statements of comprehensive income for the year ended December 31, 2022.

Revenue from contracts with customers disaggregated by timing of revenue recognition for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Performance obligations satisfied at a point in time	₩ 1,542,131	₩ 1,363,388
Performance obligations satisfied over time	226,627	221,846
	1,768,758	1,585,234
Consolidation adjustments	(57,445)	(47,408)
Consolidated income statements	₩ 1,711,313	₩ 1,537,826

The customers occupying over 10% of the Group's revenue from contracts with customers for the year ended December 31, 2022 is as follows (Korean won in millions):

	Amount
Medical Corporation Green Cross Medical Laboratories	₩ 204,128

24. Sales and cost of sales (cont'd)

The following table provides information about the nature and timing of the satisfaction of performance obligations in contracts with customers, including significant payment terms, and the related revenue recognition policies.

Type of product/service	Nature and timing of satisfaction of performance obligations, including significant payment terms	Revenue recognition policies
Sales of ordinary medicine _ merchandise, hospital, pharmacy	Customers obtain control of products when the goods are delivered and accepted by customers. The performance obligations relating to a guarantee of the ordinary activities are not identified. The returns of goods in the ordinary activities are acceptable and certain contracts include the variable consideration of discounts, incentives and others.	Revenue is recognised when the goods are transferred and accepted by customers. Revenue is recognised only to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur in case of the contracts with customer's right to return, discounts and incentives. The Group recognises the estimated amount of each goods' as revenue, reflecting on a historical data of returns. To account for goods with a right of return, refund liabilities are recognised as other provisions (see Note15). The Group updates the measurement of the provision at the end of each reporting period for changes in expectations about the amount of refunds.
Sales of vaccine product _ merchandise, hospital,	Customers obtain control of products when the goods are delivered and accepted by customers. The performance obligations relating to a guarantee of the ordinary activities are not identified. The returns of goods in the ordinary activities are acceptable and the Group estimates the amount of variable consideration to which the Group will be entitled in certain contracts including the variable consideration.	The accounting policies on revenue recognition and returns of goods are same as above. The Group estimates the amount of consideration to which the Group will be entitled in exchange for transferring the promised goods to a customer. The variable consideration is only included in the transaction price if, and to the extent that, it is highly probable that its inclusion will not result in a significant revenue reversal in the future when the uncertainty has been subsequently resolved. The Group recognises the estimated variable consideration in the third quarter when sales of goods are highest and uncertainty is not resolved.
Sales of medicine _ export	Generally, the control of products is transferred at the time of shipment (air, sea) under incoterms condition.	Revenue is recognised when the control of goods is transferred under incoterms condition.
Sales OTC through online _ home-shopping, online-mall	Generally, the control of products is transferred when the promised goods are delivered to a customer and are purchased, received and confirmed by a final customer (or 7 days after receipt of promised goods). The returns of goods are acceptable when the returns from final customer due to defects of goods are made within the return periods in the contract.	Revenue is recognised when the goods are transferred to and accepted by the customer. In case of the contracts with customer's right to return, revenue is recognised only to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur. The estimated amounts about each good's returns based on a historical data are recognised as revenue. To account for goods with a right of return, refund liabilities and assets for its right to recover goods from customers are recognised. The assets for its right to recover goods from customers on settling the refund liability are measured by the initial amount of goods transferred less any expected costs for recovery. Refund liabilities are represented in other provisions (see Note15) and assets for its right to recover goods from customers on settling the refund liability are represented in other inventories (see Note7). The Group adjusts the measurement of liabilities and assets at the end of each reporting period, reflecting the updated expectations about the amount of refunds.
Transfers of technologies	The Group identifies a performance obligation and recognises revenue relating to the transfers of technologies, at a point in time (or over time) that the performance obligation is satisfied. Revenue for the transfers of technologies usually consists of an upfront fee generally received at the time of entering into the contract, milestone received at the time of reaching certain requirements, transaction price to which the Group expects to be entitled in exchange for the goods and royalties based on a certain rate of the sales amount or the sales amount.	If the license is distinct from supplying goods, the Group recognises the revenue at a point in time, only when the Group has no obligation to return of upfront fee and the control is transferred from the customer to the Group. Revenue for the milestone is recognised at the time of reaching certain requirements, in each contract, such as a launch of specific clinical trial or approval by regulators and achievement of target amount for sales. If the license is not distinct from supplying goods, the amount of upfront fee and milestone is deferred during the product supply period and recognised as revenue over time. In addition, the Group determines the time of revenue recognition of loyalties, reflecting the substance of the relevant contracts.

25. Selling and administrative expenses

Details of selling and administrative expenses for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Salaries	₩	95,046	₩	89,442
Employee retirement benefits		10,535		7,214
Employee welfare benefits		7,865		4,951
Other employee expenses		9,944		8,761
Travel		10,889		10,065
Utilities		3,313		2,595
Supplies		1,381		2,560
Taxes and dues		2,165		1,594
Vehicle maintenance		1,842		1,353
Transportation		13,454		15,114
Service fees		54,882		64,498
Rents		4,023		3,276
Advertising		49,861		48,549
Sales promotion and commission		6,989		7,542
Oversea marketing		865		466
Bad debt expenses		2,246		7,054
Depreciation		4,015		3,541
Depreciation (lease)		2,586		2,502
Amortization		3,856		2,087
Samples		1,712		1,248
Research and development		191,347		146,030
Consignment service fees		6,276		7,286
Others		15,449		9,204
	₩	500,541	₩	446,932

26. Other income and other expenses

Details of other income and other expenses for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Other income:				
Lease income	₩	666	₩	2,124
Gain on foreign currency transactions		11,944		8,526
Gain on foreign currency translation		1,395		677
Gain on disposal of property, plant and equipment		123		187
Gain on disposal of intangible assets		1,450		-
Gain on disposal of right of use assets		95		24
Gain on disposal of subsidiary		40,467		-
Commissions		164		194
Reversal of other bad debt expenses		-		74
Gain on disposal of assets held for sales		-		8,263
Miscellaneous income		2,989		4,210
	₩	59,293	₩	24,279
Other expenses:				
Loss on foreign currency transactions	₩	7,290	₩	2,304
Loss on foreign currency translation		4,156		381
Loss on disposal of property, plant and equipment		1,461		1,471
Loss on disposal of intangible assets		17		12
Loss on disposition of receivables		3		40
Other bad debt expenses		554		10
Donations		5,635		3,086
Miscellaneous expenses		5,564		532
	₩	24,680	₩	7,836

27. Finance income and finance costs

Details of finance income and finance costs for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Finance income:				
Interest income	₩	3,467	₩	1,265
Dividend income		318		400
Gain on foreign currency transactions		2,893		6,126
Gain on foreign currency translation		822		1,950
Gain on valuation of derivative		5,760		3,323
Gain on derivative transactions		-		1,905
Gain on valuation of financial assets at FVPL		2,121		298
Gain on disposal of financial assets at FVPL		37		5,813
	₩	15,418	₩	21,080
Finance costs:				
Interest expenses	₩	15,562	₩	10,631
Interest expenses (lease)		2,832		1,870
Loss on foreign currency transactions		936		1,108
Loss on foreign currency translation		2,103		9
Loss on valuation of derivatives		3,220		-
Loss on derivatives transactions		-		97
Loss on valuation of financial assets at FVPL		2,354		2,760
Loss on disposal of financial assets at FVPL		464		3,684
	₩	27,471	₩	20,159
Net finance income (costs)	₩	(12,053)	₩	921

28. Expenses based on nature of expenses

Details of expenses based on nature of expenses for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022					
		Cost of sales		Selling and administrative expenses		Total
Changes in inventories	₩	(2,200)	₩	-	₩	(2,200)
Purchase of raw materials and merchandise		742,360		-		742,360
Salaries		109,159		138,016		247,175
Employee retirement benefits		9,576		13,929		23,505
Depreciation		34,332		12,550		46,882
Amortization		1,257		6,346		7,603
Others		235,025		329,700		564,725
	₩	1,129,509	₩	500,541	₩	1,630,050

	2021					
		Cost of sales		Selling and administrative expenses		Total
Changes in inventories	₩	(46,937)	₩	-	₩	(46,937)
Purchase of raw materials and merchandise		864,681		-		864,681
Salaries		82,037		127,178		209,215
Employee retirement benefits		7,905		10,328		18,233
Depreciation		29,732		12,468		42,200
Amortization		2,247		3,364		5,611
Others		77,569		293,594		371,163
	₩	1,017,234	₩	446,932	₩	1,464,166

29. Income tax expense

The major components of income taxes for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Current income tax	₩	27,356	₩	34,661
Adjustments in respect of current income tax of prior year		(3,621)		(310)
Relating to origination and reversal of temporary differences		(8,518)		847
Income tax recognised in directly in equity		1,096		411
Total income tax expense	₩	16,313	₩	35,609

Income taxes recognised directly in equity for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Re-measurement gain on defined benefit plans	₩	1,414	₩	1,955
Loss on valuation of financial assets at FVOCI		(318)		(1,544)
Income tax recognised directly in equity	₩	1,096	₩	411

Income taxes related to re-measurement of the net defined benefit liability, consideration for stock warrants and consideration for conversion rights are recognised directly in equity and income tax related to fair value gain or loss on financial assets at FVOCI is recognised in other comprehensive income.

Reconciliations of profit before income tax at the Korea statutory tax rate to income tax expense for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Profit before income tax from continuing operations	₩	85,728	₩	172,559
Tax at the statutory income tax rate		20,746		41,759
Adjustments:				
Tax effects of permanent differences		778		3,408
Additional tax payments(recoverable)		(3,632)		(310)
Tax credits		(5,856)		(6,858)
Effects of unrecognised deferred income tax		5,216		(2,753)
Others		(939)		363
Income tax expense	₩	16,313	₩	35,609
Average effective income tax rate		19.03%		20.64%

Income tax effects of temporary difference as of December 31, 2022 is calculated by applying the future expected tax rate of the fiscal period, in which the temporary differences are reversed.

29. Income tax expense (cont'd)

Changes in deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022					
		Beginning balance		Increase (decrease)		Ending balance
Defined benefit liability	₩	30,925	₩	2,800	₩	33,725
Accrued expenses(Annual allowance)		2,341		37		2,378
Defined benefit plan		(30,925)		(2,800)		(33,725)
Depreciation		184		40		224
Provision for returned goods		7,310		(223)		7,087
Provision for valuation of inventories		4,590		2,235		6,825
Carried forwarded tax credit		1,098		444		1,542
Merger in GC CELL CORPORATION		(9,250)		5,288		(3,962)
Others		11,690		697		12,387
	₩	17,963	₩	8,518	₩	26,481
Deferred tax assets	₩	19,832	₩	8,007	₩	27,839
Deferred tax liabilities		(1,869)		511		(1,358)

	2021					
		Beginning balance		Increase (decrease)		Ending balance
Defined benefit liability	₩	25,724	₩	5,201	₩	30,925
Accrued expenses(Annual allowance)		2,118		223		2,341
Defined benefit plan		(26,569)		(4,356)		(30,925)
Depreciation		8		176		184
Provision for returned goods		4,535		2,775		7,310
Provision for valuation of inventories		6,669		(2,079)		4,590
Carried forwarded tax credit		1,538		(440)		1,098
Merger in GC CELL CORPORATION		-		(9,250)		(9,250)
Others		4,787		6,903		11,690
	₩	18,810	₩	(847)	₩	17,963
Deferred tax assets	₩	20,686	₩	(854)	₩	19,832
Deferred tax liabilities		(1,876)		7		(1,869)

The Group recognises deferred tax assets for all deductible temporary differences when the aggregate amount of the total taxable temporary difference and the expected future taxable income before reflecting tax exceed the total of all deductible temporary differences and tax loss carry forwards. However, detail of unrecognised deductible temporary differences as of December 31, 2022 is as follows (Korean won in millions):

		Unrecognised deductible temporary differences
Temporary difference	₩	70,074
Tax loss carry forwards (expired at 2022 ~ 2036)		48,649
Carried forwarded tax credit (expired at 2031)		768

Realization of future tax benefits related to deferred tax assets is dependent of numerous factors, including the Group's ability to generate taxable income within the period during which temporary differences reverse, the outlook on business environments and overall future industry outlook. The Group periodically considers these factors in reaching its conclusions.

30. Commitments and contingencies

(1) The Group is involved in 4 litigations as a defendant as of December 31, 2022. 2 of those 4 litigations are finalised in February 2023, but the outcome and the impact of remaining litigations on the consolidated financial statements cannot be reasonably estimated as of December 31, 2022. The management of the Group believes the outcome of this lawsuit will not have a material impact on the consolidated financial statements.

(2) Detail of financial arrangements the Group holds with financial institutions as of December 31, 2022 is as follows (Korean won in millions, US dollar in thousands and EUR in thousands):

Type	Financial institution	Amount	
Line of credit	Kookmin Bank	₩	30,000
	Nonghyup Bank	₩	35,000
	Shinhan Bank	₩	7,107
	Woori Bank	₩	78,000
	KEB Hana Bank	₩	11,000
	Korea Development Bank	₩	127,000
	The Export-Import Bank of Korea	₩	62,000
Trade finance loan	Industrial Bank of Korea	₩	6,000
	Shinhan Bank	₩	50,000
	KEB Hana Bank	₩	23,000
Others	Kookmin Bank	₩	10,000
	KEB Hana Bank	₩	18,000
		EUR	95
		USD	7,500
	Woori Bank	USD	500
	Shinhan Bank	USD	7,700
		₩	10,000

(3) Detail of the Group's payment guarantees provided by financial institutions as of December 31, 2022 is as follows (Korean won in millions, US dollar in thousands and EUR in thousands):

Financial institution	Description	Limit of payment guarantee		Amount of payment guarantee	
KEB Hana Bank	Sales guarantee of Ipsen Korea	₩	10,000	₩	2,500
	Performance guarantee	USD	2,500	USD	2,266
	Performance guarantee	EUR	95		-
	Import letter of credit	USD	5,000	USD	393
Shinhan Bank	Import letter of credit	USD	5,000		-
Woori Bank	Usance import	USD	500		-

(4) The Group is provided with a performance guarantee for up to ₩22,192 million from Seoul Guarantee Insurance Company.

30. Commitments and contingencies (cont'd)

(5) The agreements regarding the subsidiaries and the investments in associates and joint ventures that are effective as of December 31, 2022 are as follows:

- The Group entered into an agreement on rights of first refusal, tag along rights and drag along rights regarding acquired equity interest of Curevo, Inc, Artiva Biotherapeutics, Inc., which are investments in associates of the Group. In addition, disposal of the shares are restricted under certain conditions.

- The Group entered into an agreement on the right of first refusal and tag along rights regarding acquired equity interest of GCCL Co., Ltd., a subsidiary. In addition, disposal of the Company's shares are restricted under certain conditions.

- The Group entered into an agreement on the right of first refusal, the right of redemption and the right of repurchase regarding acquired equity interest of WBNP Co., Ltd., investments in joint venture of the Group. In addition, a disposal of the Group's shares is restricted under certain conditions.

- The disposal of shares of Pet Platform 1st Association, Pet Platform No.2 Private Equity Fund, For Human Life 1st, Private Equity Fund, RMG-KB Bio Access Fund L.P., which are investments in associates of the Group, are restricted under certain conditions.

- The Group entered into an agreement on rights of first refusal and tag along rights regarding acquired equity interest of Cyrus Therapeutics Inc., an investment in associates of the Group.

- The Group entered into an agreement on drag along rights regarding acquired equity interest of S&P Cosmetic Co., Ltd., an investment in associates of the Group. In addition, a disposal of the Group's shares is restricted under certain conditions.

- The Group has abilities to access or use subsidiaries' assets and to repay subsidiaries' liabilities without any significant restriction as of December 31, 2022.

(6) GC Genome Co., Ltd., (formerly, Green Cross Genome Co., Ltd.) the subsidiary of the Group, is obligated to purchase up to 60% (60% of the total par value) of the total amount of shares from exercising convertible bonds issued by subsidiary GC Genome Co., Ltd., (formerly, Green Cross Genome Co., Ltd.) and 4% compound interest accrued from the bondholders in the case of failure of an initial public offering within the 4-year deadline, and the resulting bondholder's put option exercise.

30. Commitments and contingencies (cont'd)

(7) The agreements regarding technology transfers effective as of December 31, 2022 are as follows:

- The Group entered into an agreement transferring Hunterase technology with CANbridge (located in China) on January 3, 2019. The Group received an upfront payment in 2019 and a first milestone payment for the acquisition of Chinese permits for the year ended December 31, 2020. The Group may receive additional milestone payment depending on the acquisition of pharmaceutical pricing.
- The Group entered into agreement with Artiva Biotherapeutics, Inc in United States, investment in associates of the Group, at September 4, 2019, related to the technology transfer of the cord blood derived NK cell therapy being developed by the Group. Artiva Biotherapeutics, Inc. develops the cancer therapeutics using the cord blood derived NK cell therapy, starting in United States. The agreement is valid worldwide except for Asia and Oceania. The clinical trials to develop the cancer therapeutics maximizing the effectiveness of treatments using the cord blood derived NK cell therapy in combination with several therapeutic antibodies or immune check point inhibitors are underway in the United States. The agreement is a master contract to include an option to execute regarding each licensed product according to the clinical research. The upfront payment and milestone payments are subject to each contract for the licensed products based on the agreement between both entities.

  The Group entered into the option contract regarding AB-101 (cord blood derived NK cell therapy) based on above master contract on November 21, 2019. This project is in a completion stage of the submission to the U.S. IND in December 2020. According to the contract, an upfront payment is none and a milestone payment is not able to be disclosed.

  The Group entered into the option contract regarding AB-201 (CAR-cord blood derived NK cell therapy) based on above master contract on September 29, 2020. According to the contract, an upfront payment, USD 293,800, is recognised as revenue in current reporting year and a milestone payment is not able to be disclosed.

  The Group entered into the option contract regarding B-cell Lymphoma and AB-202 (CAR -NK cell therapy) based on above master contract on March 24, 2021. According to the contract, an upfront payment, USD 5,000,000, of which USD 2,500,000 was received on April 22, 2021, is recognised as revenue over time. USD 2,500,000 will be received upon completion of clinical trial. The maximum milestone upon meeting all achievements for each stage of development, permission and sales is USD 81,500,000.

  The Group entered into the option contract regarding CD5 Selected Product License Agreement (AB-205) based on the master contract described above on December 20, 2022. The upfront payment, USD 1,000,000, which was billed on December 30, 2022 is recognised as revenue over time.

- The Group entered into the co-development agreements with Artiva Biotherapeutics, Inc. for 3 of CAR-NK cell therapies targeting solid tumor-associated antigens, at January 29, 2021. The development of 1 therapy can be proceed additionally depending on the development progress of 2 therapies carried out first.

  The upfront payment without obligations for returns is USD 15,000,000 is received for the year ended December 31, 2021 and is recognised as revenue over time. The maximum milestone upon meeting all achievements for each stage of development, permission and sales is USD 966,750,000.

- The Group entered into the Immuncell-LC technology transfer agreement with RIVAARA IMMUNE PRIVATE LIMITED of India, at January 3, 2022. The Group received the upfront payment, USD 450,000, during the year ended December 31, 2022 and recognizes as revenue over time based on percentage of completion. The Group will be eligible to receive upfront payment of USD 450,000 and 10% of equity interest issued by RIVAARA IMMUNE PRIVATE LIMITED if all contract conditions are met.

There is uncertainty in future potential revenue of milestone and royalty since they depend on the success of the development, such as clinical trials and permission from the regulatory authorities.

30. Commitments and contingencies (cont'd)

(8) The Group provides storage services of the collected hematopoietic stem cell. The revenue from storage services will be recognised based on the percentage-of-completion method. The sales expected to be recognised in the future is represented in current and non-current unearned revenue. The adjustments for the occurrence of additional costs arising from issues in the storage process were not considered.

(9) In December 2021, the Group entered into an agreement with Korea Disease Control and Prevention Agency regarding permission and domestic distribution of Moderna m-RNA 1237 vaccine. All services have been provided and service fee have been received as of December 31. 2022.

31. Collateralized assets

The following assets have been pledged as collateral for the Group's liabilities as of December 31, 2022 (Korean won in millions):

Related company or institution	Account	Borrowings	Asset pledged	Description	Carrying amount	Pledged amount
Shinhan Bank	Overdraft loan	₩ -	Financial assets at AC	Reserve deposits	₩ 18	₩ 18
The Korea Securities Finance Corp.	Loan for ESOP	-	Financial assets at AC	Loan for ESOP	800	800
KEB Hana Bank	Short-term borrowings	2,000	PP&E	Building	17,454	
				Machinery	5,828	2,400
Shinhan Bank	Current portion of long-term borrowings	160	PP&E	Land	86	
				Building	146	
				Machinery	121	343
		256	PP&E	Machinery	207	307
Korea Development Bank	Short-term borrowings	-	PP&E	Land	232	
				Building	4,210	6,000
		₩ 2,416			₩ 29,102	₩ 9,868

32. Cash flows from operating activities

Details of adjustments and changes of net working capital in cash generated from operation for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Profit for the year	₩ 69,415	₩ 136,950
Adjustments to reconcile profit for the year to net cash flows:	112,300	34,628
Income tax expense	16,313	35,609
Interest expense	15,562	10,631
Interest expense (lease)	2,832	1,870
Employee retirement benefits	23,001	17,882
Bad debt expenses	2,246	7,054
Other bad debt expenses	554	10
Loss on foreign currency translation	6,257	390
Depreciation	46,882	42,200
Depreciation (lease)	10,611	8,093
Amortization	7,603	5,611
Loss on disposal of property, plant and equipment	1,461	1,471
Loss on disposal of intangible assets	17	12
Loss on valuation of derivatives	3,220	-
Loss on derivative transactions	-	97
Loss on valuation of financial assets at FVPL	2,354	2,760

32. Cash flows from operating activities (cont'd)

		2022		2021
Loss on disposal of financial assets at FVPL	₩	464	₩	3,684
Loss on investments in associate		18,143		3,480
Loss on valuation of inventories		10,848		3,075
Miscellaneous income		-		(46)
Miscellaneous loss		31		-
Interest income		(3,467)		(1,265)
Dividend income		(318)		(400)
Reversal of other bad debt expenses		-		(74)
Gain on foreign currency translation		(2,217)		(2,627)
Gain on foreign currency transaction		-		(63)
Gain on disposal of property, plant and equipment		(123)		(187)
Gain on disposal of right of use assets		(95)		(24)
Gain on disposal of intangible assets		(1,450)		-
Gain on valuation of derivative assets		(5,760)		(3,323)
Gain on derivative transactions		-		(1,905)
Gain on valuation of financial assets at FVPL		(2,121)		(298)
Gain on disposal of financial assets at FVPL		(37)		(5,813)
Gain on disposal of assets held for sales		-		(8,263)
Gain on investments in associates		(44)		(85,013)
Gain on disposal of subsidiaries		(40,467)		-
Working capital adjustments:		(8,862)		(18,978)
Trade and other receivables – trade		13,219		(10,756)
Trade and other receivables – others		(5,977)		11,191
Other current assets		(2,491)		8,179
Inventories		1,721		(14,919)
Leasehold deposits		-		(933)
Other non-current assets		410		(1,808)
Trade and other payables – trade		4,011		(16,463)
Trade and other payables – others		(5,528)		1,256
Accrued expenses		21,337		3,310
Withholdings		-		672
Deposits received		(5,446)		(246)
Provisions for returned goods		643		11,438
Other provisions		24		(212)
Other current liabilities		(10,797)		8,510
Guarantee deposit		(382)		(289)
Long-term accrued expenses		-		1,203
Other non-current liabilities		10,368		16,851
Transfer of defined benefit liabilities		343		331
Payment of retirement benefit		(2,161)		(293)
Contributions to defined benefit plan assets		(28,156)		(36,000)
Cash flows from operating activities	₩	172,853	₩	152,600

Significant transactions not involving cash flows for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Transfer of construction-in-progress	₩	94,161	₩	13,523
Transfer of current portion of long-term borrowings		8,000		119,884
Acquisition of investments of associate (contribution in kind)		3,204		-
Acquisition of investments of associate (loss of control)		70,094		-
Increase of liabilities regarding acquisition of property, plant and equipment and intangible assets		20,379		6,211
Transfer of current portion of leasehold deposits		3,701		-

33. Related parties

Related parties as of December 31, 2022 and 2021 are as follows:

Relationship	2022	2021
Parent company	GC Corp. (formerly, Green Cross Holdings Corp.)	GC Corp. (formerly, Green Cross Holdings Corp.)
Associates and	Green Cross North America Inc.(GCNA)	Green Cross North America Inc.(GCNA)
joint ventures	Artiva Biotherapeutics, Inc.	GLOBAL BIOINFRA No.2 PRIVATE EQUITY FUND (*8)
	Pet Platform 1st Association	Artiva Biotherapeutics, Inc.
	Pet Platform No.2 Private Equity Fund	Pet Platform 1st Association
	Dxome Co., Ltd. (*1)	Pet Platform No.2 Private Equity Fund
	For Human Life 1st, Private Equity Fund	Dxome Co., Ltd. (*1)
	ABO Holdings, Inc.	For Human Life 1st, Private Equity Fund
	RMG-KB BioAccess Fund L.P	ABO Holdings, Inc.
	WBNP Co., Ltd.	RMG-KB BioAccess Fund L.P
	Cyrus Therapeutics Inc. (*2)	WBNP Co., Ltd.
	COERA, Inc.(*2)	
	BIOCENTRIQ, Inc.(*2)	
	Genece Health, Inc.(*2)	
	S&P Cosmetic Co., Ltd. (*2)	
	CUREVO, Inc.(*3)	
Others	GC Care Corporation	GC Care Corporation
	GC EM Corp. (formerly, Green Cross EM Corp.)	GC EM Corp. (formerly, Green Cross EM Corp.)
	MOGAM Biotechnology Research Institute	MOGAM Biotechnology Research Institute
	Medical Corporation Green Cross Medical Laboratories (“GCML”)	Medical Corporation Green Cross Medical Laboratories (“GCML”)
	Green Cross Welfare Co., Ltd.	Green Cross Welfare Co., Ltd.
	GC China	GC China
	Green Cross Hong Kong Holdings Limited (“GCHK”)	Green Cross Hong Kong Holdings Limited (“GCHK”)
	Taojiang Green Cross Pharmaceutical Distribution Co.,Ltd,	Taojiang Green Cross Pharmaceutical Distribution Co.,Ltd,
	ShouXian Green Cross Plasma Center Co.,Ltd.	ShouXian Green Cross Plasma Center Co.,Ltd.
	NingGuo Green Cross Plasma Center Co.,Ltd.	NingGuo Green Cross Plasma Center Co.,Ltd.
	DangShan Green Cross Plasma Center Co.,Ltd.	DangShan Green Cross Plasma Center Co.,Ltd.
	Anhui Green Cross Pharmaceutical Co.,Ltd.	Anhui Green Cross Pharmaceutical Co.,Ltd.
	Amuseway, Inc	PBS Biotech, Inc. (*9)
	GC Labtech, Inc.(“GCLT”)	Amuseway, Inc
	Cipherome, Inc.	GC Labtech, Inc.(“GCLT”)
	Real estate disposal trust	Cipherome, Inc.
	Ajin D&M Co., Ltd.	Real estate disposal trust
	DoAI Co., Ltd.	Ajin D&M Co., Ltd.
	Feldan Therapeutics	DoAI Co., Ltd.
	Genoplan Inc.	Feldan Therapeutics
	Genoplan Korea Inc.	Genoplan Inc.
	Genoplan Japan Inc.	Genoplan Korea Inc.
	FUTURE FOUNDATION OF KOREA	Genoplan Japan Inc.
	Mogam Science Scholarship Foundation	FUTURE FOUNDATION OF KOREA
	doinglab Co.,Ltd.	Mogam Science Scholarship Foundation
	B-bros Corporation	doinglab Co.,Ltd.
	Upharmmall. Co., Ltd.	B-bros Corporation
	GENECAST CO., LTD	Upharmmall. Co., Ltd.
	ABLE Analytics Co., Ltd.	GENECAST CO., LTD
	UBcare Co., Ltd.	ABLE Analytics Co., Ltd.
	K-concept Inc.	UBcare Co., Ltd.
	HectonProject Co., Ltd.	K-concept Inc.
	Hecton CNC Co., Ltd.	HectonProject Co., Ltd.
	BNH-POSCO Bio Healthcare Fund	Hecton CNC Co., Ltd.
	Medivate-Davalue Fund No.03	BNH-POSCO Bio Healthcare Fund
	Genes Labs Inc.	Medivate-Davalue Fund No.03
	Redblue Inc.	Genes Labs Inc.
	Kittenpla.net	Redblue Inc.
	iKooB Inc.	Kittenpla.net
	ABLE 2 CARE, INC	iKooB Inc.
	Smart Healthcare No.3 Private Equity Fund (*4)	ABLE 2 CARE, INC
	Eonemedi CO., LTD. (*4)	
	CRETEM Co., Ltd. (*4)	
	CRETEM USA INC. (*4)	
	HMH CO., LTD. (*4)	
	YULIM TEC CO., LTD. (*4)	
	Pumpkin Company (*5)	
	ONES GLOBAL CO., LTD. (*5)	
	Gunkanghanchigudl Co., Ltd. (*6)	
	Green Vet (*7)	

33. Related parties (cont'd)

(*1) The entity is included in financial assets at FVPL according to KIFRS No. 1109 as the Group is substantially not accessible to the returns related to the owned interest in an associate.

(*2) The entities are included in investments in associate as the Group has a significant influence for the year ended December 31, 2022.

(*3) The entity is transferred to investments in associate as the Group losses a control over the entity for the year ended December 31, 2022.

(*4) The entities are included in the other related parties, as the entities are included in subsidiaries or investments of associates of UBcare Co., Ltd., other related parties of the Group, for the year ended December 31, 2022.

(*5) The entities are included in the other related parties, as the entities are included in investments of associates of GC Corp., (formerly, Green Cross Holdings Corp.) parent company of the Group, for the year ended December 31, 2022.

(*6) The entities are included in the other related parties, as the entities are included in subsidiaries of Redblue Inc., other related parties of the Group, for the year ended December 31, 2022.

(*7) The entities are included in the other related parties, as the entities are included in subsidiary of GC Corp., (formerly, Green Cross Holdings Corp.) parent company of the Group, for the year ended December 31, 2022.

(*8) The entity is excluded from related parties as the entity has been liquidated for the year ended December 31, 2022.

(*9) The entity is excluded from related parties as GC Corp., (formerly, Green Cross Holdings Corp.) parent company of the Group, losses a significant influence over the entity for the year ended December 31, 2022.

33. Related parties (cont'd)

Significant transactions with the related parties for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022										
		Sales	Other income	Divid-end income	Dispo-sal of equity interest (*1)	Purcha-se etc.	Service fee	R&D Expen-ses	Other Expen-ses	Acquisi-tion of assets	Invest-ment in equity interest	Divid-end paid
Parent Company:												
GC Corp. (formerly, Green Cross Holdings Corp.)	₩	303	74	-	1,279	8,409	11,743	3,759	7,425	-	-	11,877
Associates and joint ventures:												
Artiva Biotherapeutics, Inc.		13,547	-	-	-	-	-	-	-	-	-	-
RMG-KB BioAccess Fund L.P		-	-	-	-	-	-	-	-	-	2,794	-
COERA, Inc.		-	-	-	-	-	-	-	-	-	25,510	-
Cyrus Therapeutics Inc.		-	55	-	-	-	-	-	-	-	5,000	-
GLOBAL BIOINFRA No.2 PRIVATE EQUITY FUND (*2)		-	-	151	-	-	-	-	-	-	-	-
Genece Health, Inc. (*3)		-	-	-	-	-	-	-	-	2,047	3	-
WBNP Co., Ltd.		-	-	-	-	-	-	-	-	-	100	-
S&P Cosmetic Co., Ltd.		3	8	-	-	-	-	-	-	-	3,204	-
Others:												
GC Care Corporation		4,508	97	-	-	343	71	79	2,171	-	-	-
GC EM Corp. (formerly, Green Cross EM Corp.)		136	3	-	-	9,281	49	1,031	477	21,468	-	-
MOGAM Biotechnology Research Institute		70	360	-	-	2,663	-	1,883	-	2,776	-	-
Anhui Green Cross Pharmaceutical Co.,Ltd.		3,227	-	-	-	-	-	3	-	-	-	-
GCML		204,128	34	-	-	484	2,563	21	135	-	-	-
UBcare Co., Ltd.		14	72	-	-	997	121	-	10	32	-	-
HectonProject Co., Ltd.		-	17	-	-	18	-	-	-	-	-	-
Green Cross Welfare Co., Ltd.		1	-	-	-	37	3	60	285	-	-	-
Mogam Science Scholarship Foundation		-	-	-	-	-	-	-	-	-	-	102
B-bros Corporation		-	16	-	-	-	-	-	-	-	-	-
Feldan Therapeutics(*3)		-	-	-	-	-	-	-	-	1,427	-	-
Others:		3	-	-	-	13	-	-	-	-	-	-
	₩	225,940	736	151	1,279	22,245	14,550	6,836	10,503	27,750	36,611	11,979

(*1) The Group disposes all of equity interest of Green Vet, subsidiary of the Group, to GC Corp., (formerly, Green Cross Holdings Corp.,) parent company of the Group.

(*2) Only transactions before the date of excluding from investments of associates are included.

(*3) The acquisition costs of both the convertible notes issued by Genece Health, Inc. and the convertible bonds issued by Feldan Therapeutics are included in acquisition of assets.

33. Related parties (cont'd)

	2021											
	Sales	Other income	Dividend income	Disposal of assets.	Disposal of equity interest	Purchase etc.	Service fee	R&D Expenses	Other Expenses	Acquisition of assets	Investment in equity interest	Dividend paid
Parent Company:												
GC Corp. (formerly, Green Cross Holdings Corp.)	₩ 331	123	-	1,053	-	6,128	10,649	3,262	7,869	4	-	8,984
Associates and joint ventures:												
Green Cross Cell Co., Ltd. (*1)	504	219	293	-	-	526	-	1,406	-	-	-	-
GCNA	-	8,355	-	-	-	-	-	-	-	-	-	-
Artiva Biotherapeutics, Inc.	8,246	-	-	-	-	-	-	-	-	-	4,526	-
GLOBAL BIOINFRA No.2 PRIVATE EQUITY FUND	-	-	4,698	-	5,500	-	-	-	-	-	-	-
RMG-KB BioAccess Fund L.P	-	-	-	-	-	-	-	-	-	-	352	-
For Human Life 1st, Private Equity Fund	-	-	-	-	-	-	-	-	-	-	73,795	-
WBNP Co., Ltd.	-	-	-	-	-	-	-	-	-	-	100	-
Others:												
GC Care Corporation	3,972	21	-	-	-	158	70	354	894	-	-	-
GC EM Corp. (formerly, Green Cross EM Corp.)	153	21	-	-	-	10,896	64	3,187	474	31,830	-	-
MOGAM Biotechnology Research Institute	125	909	-	-	-	2,250	25	3,480	-	35	-	-
Anhui Green Cross Pharmaceutical Co.,Ltd.	18,106	-	-	-	-	-	-	57	-	-	-	-
GCML	174,063	35	-	-	-	371	1,131	76	42	29	-	1
UBcare Co., Ltd.	10	41	-	-	-	780	236	-	7	2	-	-
HectonProject Co., Ltd.	-	7	-	-	-	22	-	-	-	-	-	-
Green Cross Welfare Co., Ltd.	-	-	-	-	-	30	-	23	339	-	-	-
Others:	1	5	-	-	-	3	-	-	8	-	-	-
	₩ 205,511	9,736	4,991	1,053	5,500	21,164	12,175	11,845	9,633	31,900	78,773	8,985

(*1) Only transactions before the date of excluding from associates are included.

Intra-group transactions have been eliminated and excluded from the above tables.

Outstanding balances with the related parties as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022								
	Trade receivables	Other receivables	Leasehold deposits	Trade payables	Accrued expenses	Other payables	Deposits received	Lease liabilities	Unearned revenue
Parent Company:									
GC Corp. (formerly, Green Cross Holdings Corp.	₩ 29	₩ 203	₩ 19,384	₩ 33	₩ 9,824	₩ -	₩ -	₩ 92,411	₩ -
Associates:									
Artiva Biotherapeutics, Inc.	1,662	16	-	-	-	-	-	-	13,754
Cyrus Therapeutics Inc.	7	-	-	-	-	-	-	-	-
S&P Cosmetic Co., Ltd.	-	8	-	-	-	-	24	-	-
Others:									
GC Care Corporation	1,028	8	-	-	464	-	-	-	-
GC EM Corp. (formerly, Green Cross EM Corp.)	-	-	-	-	2,366	9,328	-	-	-
MOGAM Biotechnology Research Institute	-	731	-	-	2,351	-	-	-	-
Anhui Green Cross Pharmaceutical Co., Ltd.	2,246	-	-	-	-	-	-	-	-
GCML	29,989	215	-	28	310	-	-	-	-
UBcare Co., Ltd.	2	8	-	-	331	-	-	-	-
HectonProject Co., Ltd.	-	2	-	-	1	-	-	-	-
Green Cross Welfare Co., Ltd.	-	-	-	-	10	-	-	-	-
Others	1	-	-	-	-	-	-	-	-
	₩ 34,964	₩ 1,191	₩ 19,384	₩ 61	₩ 15,657	₩ 9,328	₩ 24	₩ 92,411	₩ 13,754

33. Related parties (cont'd)

	2021								
	Trade receivables	Other receivables	Leasehold deposits	Trade payables	Accrued expenses	Other payables	Deposits received	Lease liabilities	Unearned revenue
Parent Company:									
GC Corp. (formerly, Green Cross Holdings Corp.)	₩ 22	₩ 28	₩ 19,528	₩ -	₩ 8,909	₩ 83	₩ -	₩ 92,598	₩ -
Associates:									
Artiva Biotherapeutics, Inc.	4,278	-	-	-	-	-	-	-	16,970
Others:									
GC Care Corporation	1,306	3	-	-	293	-	-	-	-
GC EM Corp. (formerly, Green Cross EM Corp.)	50	2	-	-	2,399	1,198	-	-	-
MOGAM Biotechnology Research Institute	34	1,002	-	-	4,579	-	358	-	-
Anhui Green Cross Pharmaceutical Co., Ltd.	8,535	-	-	-	-	-	-	-	-
GCML	56,633	14	-	25	111	-	-	-	-
UBcare Co., Ltd.	3	6	-	-	262	-	-	-	-
HectonProject Co., Ltd.	-	1	-	-	4	-	-	-	-
Green Cross Welfare Co., Ltd.	-	-	-	-	11	-	-	-	-
	₩ 70,861	₩ 1,056	₩ 19,528	₩ 25	₩ 16,568	₩ 1,281	₩ 358	₩ 92,598	₩ 16,970

Intra-group transactions have been eliminated and excluded from the above tables.

Key management consists of standing directors, non-standing directors and business unit leader who have the authority and responsibility in the planning, operations and control of the Group's business. Key management compensation for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Short-term employee benefit	₩ 15,125	₩ 14,372
Retirement benefits	4,904	2,156
	₩ 20,029	₩ 16,528

Detail of payment guarantees provided by the Group for the related parties as of December 31, 2022 is as follows (Korean won in million):

	Type	Related parties	Guaranteed amount	Debt amount	Lender
Guarantee	Facility loan	Green Vet	₩ 1,800	₩ 811	Shinhan Bank
	Line of credit	Green Vet	600	500	Shinhan Bank
			₩ 2,400	₩ 1,311	

Financial guarantee liabilities of ₩19 million regarding those guarantees is recognised in current liabilities as of December 31, 2022.

34. Financial risk management objectives and policies

The Group is exposed to market risk, credit risk and liquidity risk. The notes provide information about the Group's exposure to each of the above risks, the Group's objectives, policies and processes for measuring and managing risk and the Group's management of capital including quantitative disclosures. Further quantitative disclosures are included throughout these consolidated financial statements.

34-1 Financial risk management objectives

The Board of Directors has the overall responsibility for the establishment and oversight of the Group's risk management framework. Risk management is managed by approved policies of the Board of Directors. The Group identifies, assesses and avoids financial risk, by collaborating with sales department. The Board of Directors provides risk policies including foreign exchange risk, interest rate risk, credit risk and policies for specific areas such as risk appetite procedures and overall risk assessment.

The Group's risk management policies are established to identify and analyse the risks faced by the Group, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group's activities. The Group, through its training and management standards and procedures, aims to develop a disciplined and constructive control environment in which all employees understand their roles and obligations. The Group's internal auditor oversees how management monitors the Group's compliance with its risk management policies and procedures and reviews the adequacy of the risk management framework in relation to the risks faced by the Group.

34-2 Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices, such as foreign exchange rates, interest rates and equity prices. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return.

(1) Currency risk

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates arising from international business activities. Foreign currency risk takes place with respect to anticipated future transactions and recognised assets and liabilities and net investment in overseas sales.

The Group manages exchange rate fluctuation risk by foreign currency regulations. The objective of managing currency risk is to minimize the effect of volatility in foreign exchange rates on the Group's profit or loss. The Group minimizes exposure to exchange rate volatility using natural hedge in its imports and exports denominated in foreign currencies. The Group also enters into derivative arrangements including foreign currency contracts and options to minimize currency risk exposure.

34. Financial risk management objectives and policies (cont'd)

34-2 Market risk (cont'd)

The Group's exposure to foreign currency risk as of December 31, 2022 and 2021 are as follows based on notional amounts (Korean won in millions, US dollar in thousands, EUR in thousands, JPY in thousands, CAD in thousands, THB in thousands, GBP in thousands, TRY in thousands, SGD in thousands, VND in thousands , AUD in thousands and CHF in thousands):

	2022		2021	
	Assets	Liabilities	Assets	Liabilities
USD	59,093	14,737	121,050	16,656
EUR	6,152	2,656	4,682	554
JPY	154,262	18,141	110,511	46,701
CAD	-	169	27	23
THB	729	268	729	-
GBP	-	110	-	125
TRY	-	-	-	23
SGD	-	30	195	1
VND	109,158	-	260,219	-
AUD	-	367	-	-
CHF	500	10	-	-
Total (conversion won)	₩ 85,390	₩ 23,129	₩ 151,164	₩ 21,195

As of December 31, 2022 and 2021, the effects of a 10% strengthening or weakening of functional currency against foreign currencies other than functional currency on profit before tax are as follows (Korean won in millions):

	2022		2021	
	10% strengthening	10% weakening	10% strengthening	10% weakening
Foreign assets (A)	₩ 76,851	₩ 93,929	₩ 136,047	₩ 166,280
Foreign liabilities (B)	20,816	25,442	19,075	23,314
(A)-(B)	56,035	68,487	116,972	142,966
Book value	62,261	62,261	129,969	129,969
Net effect	₩ (6,226)	₩ 6,226	₩ (12,997)	₩ 12,997

(2) Interest rate risk

Interest rate risk of the Group is mainly associated with deposits and borrowings with variable rates and the related interest income and expenses are exposed to interest rate risk. Interest rate risk mainly occurs from short-term borrowings with variable interest rates. In case of deposits and borrowings with fixed interest rate, changes in interest rates do not impact on net profit or equity.

As of December 31, 2022 and 2021, the financial assets and liabilities exposed to interest rate risk are as follows (Korean won in millions):

	2022	2021
Financial liabilities	₩ 107,000	₩ 21,220

A 100 basis points change in interest rates at the reporting date would have increased (decreased) profit or loss by the amounts shown below. This analysis assumes that all other variables, in particular foreign currency rates, remain constant (Korean won in millions):

	2022		2021	
	100bp increase	100bp decrease	100bp increase	100bp decrease
Interest expenses	₩ (1,070)	₩ 1,070	₩ (212)	₩ 212

34. Financial risk management objectives and policies (cont'd)

34-2 Market risk (cont'd)

(3) Price risk

The Group's investments in listed entities, which are classified as available-for-sale financial assets, are exposed to market price risk where the fair value or future cash flows of those investments may change due to changes in market price. Management periodically assesses the price risk of the fair value or future cash flow in its investments in listed entities. Significant investment assets in the Group's investment portfolio are managed individually and any acquisitions and disposals are approved by management.

As of December 31, 2022 and 2021, a 5% change in market price would impact the price of listed equity instruments on profit before tax and other comprehensive income as follows (Korean won in millions):

	2022		2021	
	+ 5%	- 5%	+ 5%	- 5%
Profit (Loss) before tax	₩ 85	₩ (85)	₩ 279	₩ (279)
Tax effect	(21)	21	(67)	67
Profit (Loss) for the year	64	(64)	212	(212)
Other comprehensive income (loss)	130	(130)	152	(152)
Tax effect	(32)	32	(37)	37
Other comprehensive income (loss), net of tax effect	₩ 98	₩ (98)	₩ 115	₩ (115)

34-3 Credit risk

Credit risk is the risk of financial loss to the Group where a customer or counterparty to a financial instrument fails to meet its contractual obligations. The Group manages credit risk to minimize losses through effective credit risk management, rapid decision support, and bond safeguards. To manage credit risk, the Group periodically evaluates the financial creditworthiness and sets credit limits for each customer and counterparty by considering their financial status, past experiences and other factors.

Credit risk arises from cash and cash equivalents, derivatives, deposit in banks and financial institutions as well as credit risk of major customers for receivables and fixed price contracts.

If the Group expects losses from those receivables that are past due or have indicators of impairment in the current period, the Group appropriately assesses and reflects the risk in the consolidated statement of financial position (see Note 5).

Information on credit risk exposure to trade receivables in group using collective valuation model as of December 31, 2022 is as follows (Korean won in millions):

	Normal bond	Below 3 months	Beyond 3 months below 6 months	Beyond 6 months (*1)	Total
Expected credit loss rate	0.18%	4.13%	22.43%	64.44%	1.52%
Total book value	₩ 434,001	₩ 7,484	₩ 2,095	₩ 8,231	₩ 451,811
Expected credit loss	775	309	470	5,304	6,858

(*1) Receivables assessed individually for impairment are included.

34. Financial risk management objectives and policies (cont'd)

34-3 Credit risk (cont'd)

The carrying amount of financial assets represents the maximum credit exposure and the maximum exposure to credit risk as of December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Financial assets at AC:				
Cash and cash equivalents (*1)	₩	105,360	₩	186,048
Trade and other receivables		444,953		450,248
Other financial assets (*1)		26,961		26,641
	₩	577,274	₩	662,937

(*1) Cash on hand and equity securities are excluded.

34-4 Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset.

The Group establishes monthly financial plans to forecast the cash flows from operating, investing and financing activities. The Group secures and maintains the necessary funds thorough this forecast and manages liquidity risk that may arise in the future. As of December 31, 2022, the Group maintains factoring arrangements, general loans and bank overdraft limits with KEB Hana Bank and others.

The following are the contractual maturities of financial liabilities as of December 31, 2022 and 2021 (Korean won in millions):

	2022							
	Less than 1 year		Beyond 1 year		Contractual cash flows		Carrying amount	
Short-term borrowings	₩	191,353	₩	-	₩	191,353	₩	187,416
Long-term borrowings		5,011		306,680		311,691		278,797
Trade and other payables		244,021		14,998		259,019		259,019
Lease liabilities		11,882		144,791		156,673		109,330
Financial guarantee liabilities (*1)		2,400		-		2,400		19
	₩	454,667	₩	466,469	₩	921,136	₩	834,581

(*1) The maximum amount of the guarantee has been allocated in the earliest period for which payment guarantee can be requested.

	2021							
	Less than 1 year		Beyond 1 year		Contractual cash flows		Carrying amount	
Short-term borrowings	₩	227,884	₩	-	₩	227,884	₩	225,375
Long-term borrowings		5,173		304,884		310,057		280,343
Trade and other payables		220,647		8,037		228,684		228,684
Lease liabilities		9,981		137,199		147,180		100,856
	₩	463,685	₩	450,120	₩	913,805	₩	835,258

34. Financial risk management objectives and policies (cont'd)

34-5 Capital management

The purpose of capital risk management of the Group is to maintain an optimal capital structure to reduce cost of capital and protect ability to provide benefits constantly to shareholders and interested parties as going concern.

The Group maintains and adjusts capital structure with adjusting dividends to shareholders, returning capital to shareholders or reducing liability by issuing new shares or disposal of assets. The Group also conducts capital risk management based on debt to equity ratio which is the common method within the industry. Debt ratio is calculated by dividing total equity from total liabilities and net borrowings ratio is calculated by dividing total equity from net borrowing deducting cash and deposits from borrowings and debts.

As of December 31, 2022 and 2021, debt ratio and net borrowings ratio are as follows (Korean won in millions):

	2022	2021
Total liabilities (A)	₩ 958,895	₩ 962,388
Total equity (B)	1,566,642	1,499,757
Cash and deposits (C)	112,324	201,083
Borrowings (D)	466,213	505,718
Debt ratio (A/B)	61.21%	64.17%
Net borrowings ratio (D-C)/B	22.59%	20.31%

34-6 Changes in debt arising from financial activities

Changes in debt arising from financial activities for the years ended December 31, 2022 and 2021 are as follows (Korean won in thousands):

	2022			
	Short-term borrowings	Long-term borrowings	Lease liabilities	Total
As of January 1	₩ 225,375	₩ 280,343	₩ 100,856	₩ 606,574
Cash flows from financing activities	(42,562)	30,608	(8,617)	(20,571)
Transfer of current portion of long-term borrowings	8,000	(8,000)	-	-
Others (*1)	(3,397)	(24,154)	17,092	(10,459)
As of December 31	₩ 187,416	₩ 278,797	₩ 109,331	₩ 575,544

(*1) The changes of consolidated entities, the changes from amortization of discount on debentures, increase or changes of lease liabilities, interest cost for lease and changes from the conversion of CB are included.

	2021			
	Short-term borrowings	Long-term borrowings	Lease liabilities	Total
As of January 1	₩ 294,375	₩ 194,160	₩ 77,897	₩ 566,432
Cash flows from financing activities	(213,687)	204,429	(6,836)	(16,094)
Transfer of current portion of long-term borrowings	119,884	(119,884)	-	-
Others (*1)	24,803	1,638	29,795	56,236
As of December 31	₩ 225,375	₩ 280,343	₩ 100,856	₩ 606,574

(*1) The changes from amortization of discount on debentures, increase or changes of lease liabilities and interest cost for lease are included.

35. Category of financial instruments

Details of financial assets by category as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022					
	Financial assets at AC	Financial assets at FVPL	Financial assets at FVOCI	Financial liabilities at FVPL	Financial liabilities at AC	Carrying amount
Cash and cash equivalents	₩ 105,366	₩ -	₩ -	₩ -	₩ -	₩ 105,366
Trade and other receivables	444,953	-	-	-	-	444,953
Other financial assets	6,958	25,602	10,764	-	-	43,324
Derivative assets	-	2,281	-	-	-	2,281
Trade and other payables	-	-	-	-	(259,019)	(259,019)
Short-term borrowings	-	-	-	-	(187,416)	(187,416)
Long-term borrowings	-	-	-	-	(278,797)	(278,797)
Financial guarantee liabilities	-	-	-	-	(19)	(19)
Lease liabilities	-	-	-	-	(109,330)	(109,330)
Derivative liabilities	-	-	-	(21,522)	-	(21,522)
	₩ 557,277	₩ 27,883	₩ 10,764	₩ (21,522)	₩ (834,581)	₩ (260,179)

	2021					
	Financial assets at AC	Financial assets at FVPL	Financial assets at FVOCI	Financial liabilities at FVPL	Financial liabilities at AC	Carrying amount
Cash and cash equivalents	₩ 186,060	₩ -	₩ -	₩ -	₩ -	₩ 186,060
Trade and other receivables	450,248	-	-	-	-	450,248
Other financial assets	15,023	20,267	9,648	-	-	44,938
Trade and other payables	-	-	-	-	(228,684)	(228,684)
Short-term borrowings	-	-	-	-	(225,375)	(225,375)
Long-term borrowings	-	-	-	-	(280,343)	(280,343)
Lease liabilities	-	-	-	-	(100,856)	(100,856)
Derivative liabilities	-	-	-	(5,253)	-	(5,253)
	₩ 651,331	₩ 20,267	₩ 9,648	₩ (5,253)	₩ (835,258)	₩ (159,265)

Details of gain on financial instruments by category for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022					
	Financial assets at AC	Financial assets at FVPL	Financial assets at FVOCI	Financial liabilities at AC	Financial liabilities at FVPL	Total
Other income:						
Gain on foreign currency transactions	₩ 11,944	₩ -	₩ -	₩ -	₩ -	₩ 11,944
Gain on foreign currency translation	107	-	-	1,288	-	1,395
Finance income:						
Interest income	3,467	-	-	-	-	3,467
Dividend income	-	2	316	-	-	318
Gain on foreign currency transactions	2,893	-	-	-	-	2,893
Gain on foreign currency translation	822	-	-	-	-	822
Gain on valuation of derivative assets	-	-	-	-	5,760	5,760
Gain on disposal of financial assets at FVPL	-	37	-	-	-	37
Gain on valuation of financial assets at FVPL	-	2,121	-	-	-	2,121
Other comprehensive income:						
Gain on valuation of financial assets at FVOCI	-	-	788	-	-	788
	₩ 19,233	₩ 2,160	₩ 1,104	₩ 1,288	₩ 5,760	₩ 29,545

35. Category of financial instruments (cont'd)

	2021					
	Financial assets at AC	Financial assets at FVPL	Financial assets at FVOCI	Financial liabilities at AC	Financial liabilities at FVPL	Total
Other income:						
Gain on foreign currency transactions	₩ 8,526	₩ -	₩ -	₩ -	₩ -	₩ 8,526
Gain on foreign currency translation	442	-	-	235	-	677
Reversal of other allowance for doubtful accounts	74	-	-	-	-	74
Finance income:						
Interest income	1,265	-	-	-	-	1,265
Dividend income	-	1	399	-	-	400
Gain on foreign currency transactions	6,126	-	-	-	-	6,126
Gain on foreign currency translation	1,950	-	-	-	-	1,950
Gain on valuation of derivatives	-	-	-	-	3,323	3,323
Gain on derivatives transactions	-	1,905	-	-		1,905
Gain on disposal of financial assets at FVPL	-	5,813	-	-	-	5,813
Gain on valuation of financial assets at FVPL	-	298	-	-	-	298
Other comprehensive income:						
Gain on valuation of financial assets at FVOCI	-	-	4,838	-	-	4,838
	₩ 18,383	₩ 8,017	₩ 5,237	₩ 235	₩ 3,323	₩ 35,195

Details of loss on financial instruments by category for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022				
	Financial assets at AC	Financial assets at FVPL	Financial liabilities at FVPL	Financial liabilities at AC	Total
Selling and administrative expenses:					
Bad debt expenses	₩ 2,246	₩ -	₩ -	₩ -	₩ 2,246
Other expenses:					
Loss on foreign currency transactions	7,290	-	-	-	7,290
Loss on foreign currency translation	3,484	-	672	-	4,156
Loss on disposition of receivables	3	-	-	-	3
Other allowance for doubtful accounts	554	-	-	-	554
Finance costs:					
Interest cost	-	-	15,562	-	15,562
Interest cost (lease)	-	-	2,832	-	2,832
Loss on foreign currency transactions	936	-	-	-	936
Loss on foreign currency translation	2,103	-	-	-	2,103
Loss on valuation of derivatives	-	1,226	-	1,994	3,220
Loss on valuation of financial assets at FVPL	-	2,354	-	-	2,354
Loss on disposal of financial assets at FVPL	-	464	-	-	464
	₩ 16,616	₩ 4,044	₩ 19,066	₩ 1,994	₩ 41,720

35. Category of financial instruments (cont'd)

	2021				
	Financial assets at AC	Financial assets at FVPL	Financial liabilities at FVPL	Financial liabilities at AC	Total
Selling and administrative expenses:					
Bad debt expenses	₩ 7,054	₩ -	₩ -	₩ -	₩ 7,054
Other expenses:					
Loss on foreign currency transactions	2,304	-	-	-	2,304
Loss on foreign currency translation	305	-	-	76	381
Loss on disposition of receivables	40	-	-	-	40
Other allowance for doubtful accounts	10	-	-	-	10
Finance costs:					
Interest cost	-	-	-	10,631	10,631
Interest cost (lease)	-	-	-	1,870	1,870
Loss on foreign currency transactions	1,108	-	-	-	1,108
Loss on foreign currency translation	10	-	-	-	10
Loss on derivatives transactions	-	-	97	-	97
Loss on valuation of financial assets at FVPL	-	2,760	-	-	2,760
Loss on disposal of financial assets at FVPL	-	3,684	-	-	3,684
	₩ 10,831	₩ 6,444	₩ 97	₩ 12,577	₩ 29,949

The Group classifies fair value measurements using a fair value hierarchy that reflects the significance of the inputs used in making the measurements. The levels of fair value hierarchy are as follows (Korean won in millions):

Level Ⅰ − The quoted prices in active markets for identical assets or liabilities
Level Ⅱ − The inputs that are observable for the asset or liability, either directly or indirectly
Level Ⅲ − The inputs for the asset or liability that are not based on observable market data

The following table shows the carrying amounts and fair values of financial assets and financial liabilities, including their levels in the fair value hierarchy, as of December 31, 2022 and 2021 (Korean won in millions).

		2022				
			Fair value			
		Carrying amount	Level Ⅰ	Level Ⅱ	Level Ⅲ	Total
Assets measured at fair value:						
Financial assets at FVPL		₩ 25,602	₩ 1,705	₩ 294	₩ 23,603	₩ 25,602
Financial assets at FVOCI		10,764	2,604	-	8,160	10,764
Derivative assets		2,281	-	-	2,281	2,281
Liabilities measured at fair value:						
Derivative liabilities		21,522	-	-	21,522	21,522
Assets not measured at fair value:						
Financial assets at AC	Cash and cash equivalents	105,366	-	-	-	-
	Trade and other receivables	444,953	-	-	-	-
	Other financial assets	6,958	-	-	-	-
Liabilities not measured at fair value:						
Financial liabilities at AC	Trade and other payables	259,019	-	-	-	-
	Short-term borrowings	187,416	-	-	-	-
	Long-term borrowings	278,797	-	-	-	-
	Financial guarantee liabilities	19	-	-	-	-
	Lease liabilities	109,331	-	-	-	-

35. Category of financial instruments (cont'd)

		2021				
			Fair value			
		Carrying amount	Level Ⅰ	Level Ⅱ	Level Ⅲ	Total
Assets measured at fair value:						
Financial assets at FVPL		₩ 20,267	₩ 5,577	₩ 2,205	₩ 12,485	₩ 20,267
Financial assets at FVOCI		9,648	3,042	-	6,606	9,648
Liabilities measured at fair value:						
Derivative liabilities		5,253	-	-	5,253	5,253
Assets not measured at fair value:						
Financial assets at AC	Cash and cash equivalents	186,060	-	-	-	-
	Trade and other receivables	450,248	-	-	-	-
	Other financial assets	15,023	-	-	-	-
Liabilities not measured at fair value:						
Financial liabilities at AC	Trade and other payables	228,684	-	-	-	-
	Short-term borrowings	225,375	-	-	-	-
	Long-term borrowings	280,343	-	-	-	-
	Lease liabilities	100,856	-	-	-	-

The Group does not disclose fair values of financial instruments at AC of which carrying amounts are considered reasonable approximations of fair values. In addition, the Group measures at cost of some non-marketable equity securities and debt securities in the financial assets at FVPL as its acquisition costs are considered to be similar to its fair value.

The Group measured the fair value of equity investments traded within the market is measured at the closing bid price quoted at the end of the reporting period. The fair value of unquoted equity and debt investments is measured by the valuation results from an external valuer.

Details of valuation techniques and inputs for financial instruments classified as Level Ⅲ are as follows (Korean won in millions):

	Fair value	Level	Valuation techniques	Unobservable inputs, etc.
Financial assets at FVPL	₩ 13,469	Ⅲ	Discounted cash flow, Binomial option pricing model	-
	2,613	Ⅲ	Quoted prices	Quoted prices
	7,521	Ⅲ	-	-
	294	Ⅱ	Adjustment net asset act	-
Financial assets at FVOCI	6,830	Ⅲ	Discounted cash flow	Discount rate
			Comparable company analysis	PER, EV/EBITDA
	520	Ⅲ	Discounted cash flow	Discount rate
	810	Ⅲ	Discounted cash flow	Discount rate
Derivative assets	2,281	Ⅲ	Binomial option pricing model	Risk-neutral probabilities
Derivative liabilities	21,522	Ⅲ	Binomial option pricing model	Risk-neutral probabilities

Change in financial instruments classified as Level Ⅲ as of December 31, 2022 is as follows (Korean won in millions):

	Financial assets	Financial liabilities
As of January 1	₩ 19,091	₩ (5,253)
Acquisitions	12,652	(22,969)
Gain(loss) presented in profit for the year	2,301	3,765
Others	-	2,935
As of December 31	₩ 34,044	₩ (21,522)

36. Lease

The Group has lease contracts for various items of land, buildings, vehicles and other equipment used in its operations. Leases of land and buildings generally have lease terms between 2 and 50 years, while motor vehicles and other equipment generally have lease terms between 2 and 5 years. The Group's obligations under its leases are secured by the lessor's title to the leased assets. Generally, the Group is restricted from assigning and subleasing the leased assets and some contracts require the Group to maintain certain financial ratios.

The Group also has certain leases of machinery with lease terms of 12 months or less and leases of office equipment with low value. The Group applies the 'short-term lease' and 'lease of low-value assets' recognition exemptions for these leases.

Changes in right of use assets and lease liabilities for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022			
	Right of use assets			
	Land and building	Others	Total	Lease liabilities
As of January 1	₩ 99,207	₩ 1,569	₩ 100,776	₩ 100,856
Increase (decrease)	18,975	1,341	20,316	19,066
Depreciation	(9,621)	(990)	(10,611)	-
Accretion of interest	-	-	-	2,832
Payment	-	-	-	(11,449)
Changes in consolidated entities	(2,044)	(11)	(2,055)	(1,979)
Foreign currency translation	17	(13)	4	4
As of December 31	₩ 106,534	₩ 1,896	₩ 108,430	₩ 109,330

	2021			
	Right of use assets			
	Land and building	Others	Total	Lease liabilities
As of January 1	₩ 76,643	₩ 734	₩ 77,377	₩ 77,897
Increase (decrease)	5,919	1,385	7,304	7,506
Depreciation	(7,355)	(738)	(8,093)	-
Accretion of interest	-	-	-	1,870
Payment	-	-	-	(8,706)
Changes in consolidated entities	23,976	188	24,164	22,265
Foreign currency translation	24	-	24	24
As of December 31	₩ 99,207	₩ 1,569	₩ 100,776	₩ 100,856

Repayment schedules of lease liabilities as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Current lease liabilities	₩ 11,579	₩ 9,887
Non-current lease liabilities	97,751	90,969
	₩ 109,330	₩ 100,856
Within one year	₩ 11,882	₩ 9,981
After one year but not more than five years	33,823	28,248
More than five years	110,967	108,951
	₩ 156,672	₩ 147,180

36. Lease (cont'd)

The following are the amounts recognised in profit or loss for the years ended December 31, 2022 and 2021 (Korean won in millions):

		2022		2021
Depreciation expense of right-of-use assets	₩	10,611	₩	8,093
Interest expense on lease liabilities		2,832		1,870
Expense relating to short-term leases		9,524		2,035
Expense relating to leases of low-value assets		2,177		1,986
Gain on sub-lease right of use assets		(51)		(7)
Gain on disposal of right of use assets		(95)		(24)
	₩	24,998	₩	13,953

Net cash flows from lease for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Lease payments	₩	11,449	₩	8,706
Expense relating to short-term leases		9,524		2,035
Expense relating to leases of low-value assets		2,127		1,986
	₩	23,100	₩	12,727

The Group has several lease contracts that include extension options. These options are negotiated by management to provide flexibility in managing the leased-asset portfolio and align with the Group's business needs. Management exercises significant judgement in determining whether these extension and termination options are reasonably certain to be exercised.

The Group has estimated that the potential future lease payments, should it exercise the extension option, would result in an increase in lease liability of ₩75,991 million.

37. Assets (liabilities) held for sales

Details of the assets (liabilities) held for sales as of December 31, 2022 and 2021 are as follows (Korean won in millions):

		2022		2021
Investments to associate	₩	1	₩	1
Property, plant and equipment		-		5,100
	₩	1	₩	5,101

The liquidation procedures of Green Cross North America Inc., recognised in the assets held for sales, is ongoing as of December 31, 2022 and the received dividend for liquidation was recognised in the gain on disposal of assets held for sales of ₩8,263 million for the year ended December 31, 2021.

38. Business combination

On 1 November 2021, GC CELL CORPORATION (formerly, Green Cross LabCell Co., Ltd.), a subsidiary of the Group, acquired Green Cross Cell Co., Ltd., (an associated company) in a merger by absorption. The purpose of this merger is to create synergies between R&D and technology exports, secure competitive advantage in the CMO business and establish an extensive business portfolio for cell-therapies. As a result of the merger Green Cross Cell Co., Ltd. and its subsidiaries became subsidiaries of the Group, and Green Cross LabCell Co., Ltd., changed its name to GC CELL CORPORATION.

38. Business combination (cont'd)

Goodwill resulting from the acquisition is attributable mainly to economies of scale arising from integrating operations between Green Cross LabCell Co., Ltd. and Green Cross Cell Co., Ltd. and the additional customer relationships acquired. Also, increase in value is expected through the enhancement of management efficiency based on the efficient use of resources and synergies between businesses.

The financial performance of Green Cross Cell Co., Ltd. from the date of acquisition, November 1, 2021, to the end of the reporting period is recognised in the consolidated financial statements of the Group.

Detail of fair value of consideration transferred for the year ended December 31, 2021 was as follows (Korean won in millions):

		Amount
Fair value of the Group's equity interest in Green Cross Cell Co., Ltd. (*1)	₩	112,838
Non-controlling interests on net assets of Green Cross Cell Co., Ltd. (*2)		63,550
Fair value of decrease in the Group's ownership in Green Cross LabCell Co., Ltd. (*3)		51,675
	₩	228,063

(*1) The fair value of 2,927,055 shares of Green Cross Cell Co., Ltd., owned by the Group, was measured at market price one day prior to the acquisition date.

(*2) The post-merger non-controlling interests of Green Cross Cell Co., Ltd. were measured by the allocated fair value of identifiable net assets.

(*3) Effective shares owned decreased as a result of the merger, and the monetary effects of the decrease was measured as the difference between fair value and carrying amount of the reduced shares.

Details of the recognised amounts of assets and liabilities assumed at the date of acquisition of Green Cross Cell Co., Ltd. and its subsidiaries are as follows (Korean won in millions):

		Amount
Assets		
Cash and cash equivalents	₩	11,918
Other financial assets		12,858
Trade and other receivables		8,110
Other assets		327
Inventories		6,655
Assets held for sales		5,100
Property, plant and equipment		63,445
Intangible assets		19,901
Right of use assets		24,164
Other bonds		2,918
	₩	155,396
Liabilities		
Trade and other payables		4,135
Other liabilities		3,294
Lease liabilities		22,265
Short-term borrowings		24,871
Non-current provisions		499
Net defined benefit liabilities		1,712
Current tax liabilities		370
Deferred tax liabilities		301
	₩	57,447
Non-controlling interests		(2,296)
Fair value of Identifiable net assets acquired	₩	95,653

38. Business combination (cont'd)

The valuation techniques used for measuring the fair value of material assets acquired are as follows.

	Assets acquired	Valuation technique
Property, plant and equipment	Land	Government published price comparison method: Value is determined based on government published prices of land that is similar in use, region and environment and such value is corrected in terms of timing, individual character and other criterion for the actual land subject to valuation.
	Building and machinery	Cost approach: This valuation method considers the cost to rebuild the structure and the depreciation at the valuation date.
Intangible assets	Technologies	The royalty exemption method: This valuation method considers the discounted estimated royalty payments that are expected to be avoided as a result of patent ownership including manufacturing skills acquired for Immuncell-LC (cancer immunotherapy medicine). .
	Customer relations	The multiple period excess earnings method: This valuation method considers the present value of net cash flows expected to be generated by the customer relationships with hospitals and local medical centres.
Right of use assets and lease liabilities		Market comparison method: Lease liabilities are measured at present value of the residual lease payments, applying incremental borrowing rate as of the acquisition date as the discount rate. The right of use assets is measured as an equal amount as lease liabilities.

The Group acquired trade receivables amounting to ₩7,620 million in fair value. The gross contractual amount of trade receivables due is ₩7,656 million and is expected to be collected in the future.

Goodwill acquired from the merger for the year ended December 31, 2021 was recognised as follows (Korean won in millions):

		Amount
Total value of consideration transferred	₩	228,063
Fair value of Identifiable net assets acquired		(95,653)
Goodwill	₩	132,410

The remeasurement to fair value of the Group's existing 2,927,055 shares in Green Cross Cell Co., Ltd. resulted in a gain of ₩76,445 million (₩112,838 million less the ₩37,952 million carrying amount of the investments in associates at the date of acquisition plus ₩1,559 million of equity adjustments of investments in associates reclassified to profit or loss). This amount has been included in gains on investments in associates.

For the period from the date of acquisition to the reporting date, Green Cross Cell Co., Ltd. and its subsidiaries contributed revenue of ₩7,055 million and loss of ₩982 million to the Group's income. If the acquisition had occurred on 1 January 2021, consolidated revenue would have been ₩1,575,038 million and consolidated profit for the year would have been ₩142,467 million.

The Group incurred acquisition-related costs of ₩966 million in legal fees and due diligence costs. These costs have been included in 'Selling and administrative expenses'.