

July 31, 2018

**KYOWA KIRIN**

# Kyowa Hakko Kirin Co., Ltd.

## Appendix to the Consolidated Financial Summary (IFRS) Fiscal 2018 Interim

(January 1, 2018 - June 30, 2018)

- These materials were made as a supplement to the Kessan Tanshin (Consolidated Financial Summary, IFRS), disclosed at the Tokyo Stock Exchange on July 31, 2018 for the first six months of Fiscal 2018, from January 1, 2018 to June 30, 2018.
- This document is an English translation of parts of the Japanese-language original. The statements, including earnings forecasts, contained in these materials are based on the information currently available to the Company and on certain assumptions deemed to be reasonable by management. As such, they do not constitute guarantees by the Company of future performance. Actual results may differ materially from these projections for a wide variety of reasons.
- Figures presented in these materials have been rounded to the nearest tenth.
- Figures inside parenthesis presented in these materials indicate negative values.

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The average exchange rates for each period were as follows:

*Unit: Yen*

	FY 2017 results		FY 2018 results	FY 2018 forecasts
	Jan - Jun	Jan - Dec	Jan - Jun	Jan - Dec
USD	113	112	109	110
EUR	122	126	132	130
GBP	142	144	151	150

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## I. Consolidated Financial Results (IFRS)

### 1. Trends in consolidated profit

*Unit: Billions of yen*

	FY 2017 results		FY 2018 results		FY 2018 forecasts	
	Jan - Jun	Jan - Dec	Jan - Jun	Change amount	Jan - Dec	%
Revenue	177.0	353.4	172.1	(4.9)	335.0	95%
Cost of sales	(66.0)	(129.1)	(60.2)	5.9	(114.0)	88%
Gross profit	111.0	224.3	112.0	1.0	221.0	99%
Selling, general and administrative expenses	(54.2)	(113.0)	(57.7)	(3.5)	(117.0)	104%
Research and development expenses	(24.3)	(49.2)	(23.1)	1.3	(49.5)	101%
Share of profit (loss) of investments accounted for using equity method	(2.4)	(4.5)	0.9	3.3	(3.5)	78%
Core operating profit	30.1	57.7	32.1	2.0	51.0	88%
Other income	1.0	6.6	14.7	13.7		
Other expenses	(2.1)	(8.4)	(0.7)	1.3		
Finance income (costs)	0.0	(0.1)	(0.4)	(0.5)		
Profit before tax	29.1	55.8	45.7	16.6	61.0	109%
Income tax expense	(8.7)	(13.0)	(11.4)	(2.7)		
Profit	20.3	42.9	34.3	13.9	44.0	103%

EPS (¥/share)	37.18	78.38	62.61	25.43	80.39	-
Annual dividend (¥/share)		27.00			30.00	-
Dividend payout ratio (%)		34.4			37.3	-
ROE (%)		7.2				-

\* "FY 2018 forecasts" have not been revised from the consolidated earnings forecasts released on February 8, 2018.

### 2. Revenue by geographic region

*Unit: Billions of yen*

	FY 2017 results			FY 2018 results		FY 2018 forecasts	
	Jan - Jun	Jan - Dec	Percentage of consolidated revenue	Jan - Jun	Percentage of consolidated revenue	Jan - Dec	Percentage of consolidated revenue
Japan	120.6	240.9	68.2%	111.6	64.8%	221.2	66.0%
International	56.4	112.5	31.8%	60.5	35.2%	113.8	34.0%
Americas	12.2	24.7	7.0%	15.6	9.1%	29.7	8.9%
Europe	28.9	56.0	15.8%	28.7	16.7%	55.2	16.5%
Asia	14.9	30.2	8.6%	15.8	9.2%	28.0	8.3%
Others	0.4	1.6	0.5%	0.4	0.2%	0.9	0.3%
Total consolidated revenue	177.0	353.4	100%	172.1	100%	335.0	100%

\* Revenue is classified by region or country based on location of customer.

### 3. Other trends

#### (1) Research and development expenses

*Unit: Billions of yen*

	FY 2017 results		FY 2018 results	FY 2018 forecasts
	Jan - Jun	Jan - Dec	Jan - Jun	Jan - Dec
Research and development (R&D) expenses <i>R&amp;D expenses to revenue ratio</i>	24.4 13.8%	49.2 13.9%	23.1 13.4%	49.5 14.8%
Pharmaceuticals <i>R&amp;D expenses to revenue ratio</i>	22.8 16.5%	46.1 16.7%	21.6 16.1%	46.5 17.7%
Bio-Chemicals	1.6	3.1	1.5	3.0

#### (2) Capital expenditures (property, plant and equipment)

*Unit: Billions of yen*

	FY 2017 results		FY 2018 results	FY 2018 forecasts
	Jan - Jun	Jan - Dec	Jan - Jun	Jan - Dec
Capital expenditures	6.7	14.3	5.0	12.5
Pharmaceuticals	4.1	6.6	1.8	5.3
Bio-Chemicals	2.6	7.7	3.2	7.2

#### (3) Depreciation and amortization (property, plant and equipment and intangible assets)

*Unit: Billions of yen*

	FY 2017 results		FY 2018 results	FY 2018 forecasts
	Jan - Jun	Jan - Dec	Jan - Jun	Jan - Dec
Depreciation and amortization <i>Amortization of intangible assets</i>	10.9 3.9	22.0 7.8	10.5 4.2	24.6 9.1
Pharmaceuticals <i>Amortization of intangible assets</i>	7.5 3.8	15.3 7.7	7.7 4.2	17.3 9.1
Bio-Chemicals	3.3	6.7	2.8	7.3

## II. Consolidated Statement of Cash Flows (IFRS)

*Unit: Billions of yen*

	FY 2017 results		FY 2018 results	
	Jan - Jun	Jan - Dec	Jan - Jun	Change amount
<b>Cash flows from operating activities</b>	32.0	64.9	29.8	(2.3)
<b>Cash flows from investing activities</b>	(23.1)	(45.3)	(23.0)	0.1
<b>Cash flows from financing activities</b>	(6.9)	(18.3)	(8.4)	(1.5)
Effect of exchange rate changes on cash and cash equivalents	0.8	1.3	(0.6)	(1.4)
Net increase (decrease) in cash and cash equivalents	2.8	2.7	(2.2)	(4.9)
Transfer to assets held for sale	-	(1.1)	1.1	1.1
Cash and cash equivalents at beginning of period	13.1	13.1	14.7	1.6
<b>Cash and cash equivalents at end of period*</b>	15.8	14.7	13.6	(2.3)

\* Cash reserves at end of period

Cash and cash equivalents at end of period	15.8	14.7	13.6	(2.3)
+ Loans receivable from parent in excess of three months	128.0	143.2	172.4	44.4
+ Time deposits whose maturity periods exceed three months	0.0	0.0	0.0	(0.0)
Cash reserves at end of period	143.8	157.9	186.0	42.1

**III. Core Operating Profit or Loss by Segment (IFRS)**
**1. Pharmaceuticals segment**
*Unit: Billions of yen*

	FY 2017 results		FY 2018 results		FY 2018 forecasts	
	Jan - Jun	Jan - Dec	Jan - Jun	Change amount	Jan - Dec	%
Revenue	138.0	275.8	134.3	(3.6)	262.0	95%
Revenue from external customers	137.5	274.8	133.8	(3.7)	261.0	95%
Japan	99.2	197.8	90.8	(8.4)	181.0	91%
International	38.3	76.9	43.0	4.7	80.0	104%
International revenue ratio	28%	28%	32%	-	31%	-
Americas	7.2	15.0	10.8	3.7	20.8	138%
Europe	21.7	41.5	21.5	(0.1)	39.8	96%
Asia	9.2	19.6	10.5	1.3	18.8	96%
Others	0.2	0.8	0.1	(0.1)	0.6	82%
Inter-segment revenue	0.5	1.0	0.6	0.1	1.0	101%
Cost of sales	(40.6)	(79.1)	(37.0)	3.6	(70.0)	89%
Gross profit	97.4	196.7	97.4	0.0	192.0	98%
Selling, general and administrative expenses	(45.4)	(95.5)	(48.3)	(2.9)	(99.0)	104%
Research and development expenses	(22.8)	(46.1)	(21.6)	1.2	(46.5)	101%
Share of profit (loss) of investments accounted for using equity method	(2.4)	(4.5)	0.9	3.3	(3.5)	78%
Core operating profit	26.8	50.5	28.4	1.6	43.0	85%

\* Revenue is classified by region or country based on location of customer.

\* The figures represent amounts before elimination of inter-segment transactions.

**2. Bio-Chemicals segment**
*Unit: Billions of yen*

	FY 2017 results		FY 2018 results		FY 2018 forecasts	
	Jan - Jun	Jan - Dec	Jan - Jun	Change amount	Jan - Dec	%
Revenue	40.8	81.1	39.3	(1.5)	76.0	94%
Revenue from external customers	39.5	78.6	38.3	(1.2)	74.0	94%
Japan	21.4	43.0	20.7	(0.7)	40.2	93%
International	18.1	35.6	17.6	(0.5)	33.8	95%
International revenue ratio	46%	45%	46%	-	46%	-
Americas	5.0	9.7	4.8	(0.2)	9.0	93%
Europe	7.2	14.4	7.2	0.0	15.4	107%
Asia	5.7	10.7	5.3	(0.4)	9.2	86%
Others	0.2	0.8	0.3	0.1	0.3	32%
Inter-segment revenue	1.3	2.5	0.9	(0.4)	2.0	79%
Cost of sales	(27.2)	(53.3)	(25.0)	2.2	(47.0)	88%
Gross profit	13.6	27.8	14.3	0.7	29.0	104%
Selling, general and administrative expenses	(8.8)	(17.6)	(9.4)	(0.6)	(18.0)	102%
Research and development expenses	(1.6)	(3.1)	(1.5)	0.1	(3.0)	98%
Core operating profit	3.2	7.2	3.4	0.2	8.0	111%

\* Revenue is classified by region or country based on location of customer.

\* The figures represent amounts before elimination of inter-segment transactions.

IV. Revenue from Main Products of Pharmaceuticals Segment (IFRS)

<Accumulative>

Unit: Billions of yen

Indication / Product name		FY 2017 results		FY 2018 results		FY 2018 forecasts		
		Jan - Jun	Jan - Dec	Jan - Jun	Change amount	Jan - Dec	%	
Japan	Renal anemia treatment drug <b>Nesp</b>	26.6	56.3	25.6	(1.1)	52.4	93%	
	Secondary hyperparathyroidism <b>Regpara</b>	9.4	18.5	7.8	(1.7)	13.2	71%	
	Secondary hyperparathyroidism <b>Orkedia</b>	-	-	0.4	0.4	3.5	-	
	Secondary hyperparathyroidism <b>Rocaltrol</b>	1.9	4.1	1.9	(0.1)	3.5	87%	
	Type-2 diabetes <b>Onglyza</b>	3.4	7.3	3.6	0.2	7.6	103%	
	Cardiovascular (Hypertension & angina pectoris) <b>Coniel</b>	3.2	6.3	2.5	(0.7)	4.9	77%	
	Agent for decreasing the incidence of febrile neutropenia <b>G-Lasta</b>	8.2	18.1	9.5	1.3	20.1	111%	
	Transdermal persistent pain <b>Fentos</b>	2.9	6.0	2.6	(0.3)	5.7	96%	
	Anticancer <b>Poteligeo</b>	0.9	1.9	0.9	0.0	1.8	95%	
	Anticancer <b>Rituximab BS [KHK]</b>	-	-	1.1	1.1	3.2	-	
	Chronic idiopathic thrombocytopenic purpura <b>Romiplate</b>	1.6	3.4	1.5	(0.1)	3.4	100%	
	Antiallergenic <b>Allelock</b>	9.1	15.9	7.5	(1.7)	11.7	74%	
	Antiallergic eyedrops <b>Patanol</b>	8.8	12.8	9.7	0.9	12.1	94%	
	Ulcerative colitis <b>Asacol</b>	2.1	4.2	1.5	(0.6)	3.4	80%	
	Psoriasis vulgaris <b>Dovobet</b>	2.7	5.3	2.8	0.1	6.2	117%	
	Psoriasis <b>Lumicef</b>	0.2	1.0	0.9	0.6	2.7	281%	
	Parkinson's disease <b>Nouriastr</b>	4.0	8.5	4.4	0.4	9.4	111%	
	Antiepileptic <b>Depakene</b>	3.2	6.5	2.7	(0.6)	5.4	82%	
	<b>Technology out-licensing</b>		2.0	2.4	1.5	(0.6)	4.6	191%
	International	Renal anemia treatment drug <b>Nesp</b>	2.9	5.7	3.1	0.2	5.8	103%
Secondary hyperparathyroidism <b>Regpara</b>		1.1	2.2	1.5	0.4	2.8	123%	
Agent for decreasing the incidence of febrile neutropenia <b>Neulasta/Peglasta</b>		1.0	2.0	1.0	0.0	2.0	101%	
Neutropenia treatment drug <b>Gran</b>		2.3	5.2	2.7	0.4	4.4	86%	
X-linked hypophosphatemia (XLH) <b>Crysvita</b>		-	-	0.8	0.8			
Cancer pain <b>Abstral</b>		5.7	11.9	6.5	0.8	13.2	111%	
Cancer pain <b>PecFent</b>		2.0	4.1	2.0	0.1	5.2	128%	
Anticancer <b>Mitomycin-C</b>		1.6	3.4	1.3	(0.4)	2.0	57%	
Chemotherapy-induced nausea and vomiting drug <b>Sancuso</b>		1.3	3.0	1.3	0.0	2.8	92%	
Opioid-induced constipation (OIC) <b>Moventig</b>		0.3	0.8	0.6	0.3	2.4	299%	
Replacement therapy with testosterone for male hypogonadism <b>Tostran/Fortesta</b>		1.1	2.2	1.4	0.3	2.1	93%	
Osteoporosis drug <b>Adcal-D3</b>		1.7	3.6	1.8	0.1	3.3	93%	
<b>Technology out-licensing</b>		9.5	16.0	12.4	2.9	17.3	108%	

\* Revenue is classified as Japan or International (other than Japan) based on customer location.

\* Revenue listed as "Technology out-licensing" specifies revenue from the upfront payment, milestone revenue, and running royalties revenue that are obtained based on licensing agreements recognizing the granting to third parties the rights for development, manufacturing and sales of the Group's pipeline compounds or the use of technology, etc.

IV. Revenue from Main Products of Pharmaceuticals Segment (IFRS)

<Quarterly>

Unit: Billions of yen




Indication / Product name		FY 2017 results		FY 2018 results		
		Jan - Mar	Apr - Jun	Jan - Mar	Apr - Jun	Change amount
Japan	Renal anemia treatment drug <b>Nesp</b>	12.5	14.2	12.0	13.6	(0.6)
	Secondary hyperparathyroidism <b>Regpara</b>	4.6	4.8	3.6	4.2	(0.6)
	Secondary hyperparathyroidism <b>Orkedia</b>	-	-	-	0.4	0.4
	Secondary hyperparathyroidism <b>Rocaltrol</b>	0.9	1.0	0.9	1.0	(0.1)
	Type-2 diabetes <b>Onglyza</b>	1.6	1.8	1.6	1.9	0.1
	Cardiovascular (Hypertension & angina pectoris) <b>Coniel</b>	1.6	1.6	1.2	1.3	(0.4)
	Agent for decreasing the incidence of febrile neutropenia <b>G-Lasta</b>	3.8	4.3	4.3	5.1	0.8
	Transdermal persistent pain <b>Fentos</b>	1.3	1.6	1.2	1.4	(0.1)
	Anticancer <b>Poteligeo</b>	0.4	0.5	0.4	0.5	0.0
	Anticancer <b>Rituximab BS [KHK]</b>	-	-	-	1.1	1.1
	Chronic idiopathic thrombocytopenic purpura <b>Romiplate</b>	0.8	0.9	0.7	0.8	(0.0)
	Antiallergenic <b>Allelock</b>	5.6	3.5	4.6	2.9	(0.7)
	Antiallergic eyedrops <b>Patanol</b>	7.0	1.8	7.7	2.0	0.2
	Ulcerative colitis <b>Asacol</b>	1.0	1.1	0.7	0.8	(0.3)
	Psoriasis vulgaris <b>Dovobet</b>	1.2	1.4	1.2	1.6	0.2
	Psoriasis <b>Lumicef</b>	0.1	0.1	0.4	0.5	0.4
	Parkinson's disease <b>Nouriastr</b>	1.8	2.1	1.9	2.5	0.4
	Antiepileptic <b>Depakene</b>	1.6	1.7	1.3	1.4	(0.3)
	<b>Technology out-licensing</b>	0.8	1.2	1.1	0.4	(0.8)
	International	Renal anemia treatment drug <b>Nesp</b>	1.4	1.5	1.5	1.6
Secondary hyperparathyroidism <b>Regpara</b>		0.5	0.5	0.7	0.8	0.3
Agent for decreasing the incidence of febrile neutropenia <b>Neulasta/Peglasta</b>		0.5	0.5	0.4	0.6	0.1
Neutropenia treatment drug <b>Gran</b>		1.0	1.3	1.4	1.3	0.0
X-linked hypophosphatemia (XLH) <b>Crysvita</b>		-	-	-	0.8	0.8
Cancer pain <b>Abstral</b>		2.9	2.8	3.4	3.1	0.3
Cancer pain <b>PecFent</b>		1.1	0.9	1.0	1.0	0.1
Anticancer <b>Mitomycin-C</b>		0.8	0.8	0.6	0.6	(0.2)
Chemotherapy-induced nausea and vomiting drug <b>Sancuso</b>		0.6	0.7	0.6	0.7	0.0
Opioid-induced constipation (OIC) <b>Moventig</b>		0.2	0.1	0.3	0.3	0.2
Replacement therapy with testosterone for male hypogonadism <b>Tostran/Fortesta</b>		0.4	0.6	0.6	0.8	0.2
Osteoporosis drug <b>Adcal-D3</b>		0.8	0.9	0.9	0.9	(0.0)
<b>Technology out-licensing</b>		8.0	1.6	6.5	5.9	4.3

\* Revenue is classified as Japan or International (other than Japan) based on customer location.







\* Revenue listed as "Technology out-licensing" specifies revenue from the upfront payment, milestone revenue, and running royalties revenue that are obtained based on licensing agreements recognizing the granting to third parties the rights for development, manufacturing and sales of the Group's pipeline compounds or the use of technology, etc.

V. R&D Pipeline








Filed • Approved



 antibody  protein  small molecule

As of Jun. 30, 2018

Area		Code Name Generic Name Formulation	Mechanism of Action	Indication	Stage	In-House or Licensed	Remarks
Nephrology		<b>KRN321</b> <b>Darbepoetin Alfa</b> <b>Injection</b>	Long-Acting Erythropoiesis Stimulating Agent	Renal Anemia (on Dialysis)	NDA in preparation in CN	Kirin-Amgen	
				Renal Anemia	Filed in ID		
		<b>KRN1493</b> <b>Cinacalcet</b> <b>Hydrochloride</b> <b>Oral</b>	Calcium Receptor Agonist	Secondary Hyperparathyroidism	Approved in BN	Licensed from Shire-NPS	
Oncology		<b>KW-0761</b> <b>Mogamulizumab</b> <b>Injection</b>	Anti-CCR4 Humanized Antibody	Cutaneous T-cell Lymphoma	Filed in US	In-House	POTELLIGENT®  Additional Indication, Dosage and Administration
					Filed in EU		
					Filed in JP		
Immunology/A llergy		<b>KHK4827</b> <b>Brodalumab</b> <b>Injection</b>	Anti-IL-17 Receptor A Fully Human Antibody	Psoriasis	Approved in TW	Kirin-Amgen	
					Filed in TH		
					Filed in SG		
					Filed in MY		
		<b>KW-6002</b> <b>Istradefylline</b> <b>Oral</b>	Adenosine A <sub>2A</sub> Receptor Antagonist	Parkinson's Disease	NDA in preparation in US	In-House	
Other		<b>©KRN23</b> <b>Burosumab</b> <b>Injection</b>	Anti-FGF23 Fully Human Antibody	X-linked Hypophosphatemia (XLH)	Approved in US  Filed in CA	In-House	Human Antibody-Producing Technology Jointly Developed with Ultragenyx in US and EU

Phase II, Phase III




Area		Code Name Generic Name Formulation	Mechanism of Action	Indication	Stage	In-House or Licensed	Remarks
Nephrology		<b>©RTA 402</b> <b>Bardoxolone Methyl</b> <b>Oral</b>	Antioxidant Inflammation Modulator	Diabetic Kidney Disease	Phase III in JP	Licensed from Reata	
		<b>KHK7580</b> <b>Evocalcet</b> <b>Oral</b>	Calcium Receptor Agonist	Hypercalcemia in Patients With Parathyroid Carcinoma or Primary Hyperparathyroidism	Phase III in JP	Licensed from Mitsubishi Tanabe Pharma	
Oncology		<b>©KHK2375</b> <b>Entinostat</b> <b>Oral</b>	HDAC Inhibitor	Breast Cancer	Phase II in JP	Syndax	
		<b>KW-0761</b> <b>Mogamulizumab</b> <b>Injection</b>	Anti-CCR4 Humanized Antibody	Adult T-cell Leukemia/Lymphoma	Phase II in US, EU and others	In-House	POTELLIGENT®
Immunology/A llergy		<b>©KHK4083</b> <b>Injection</b>	Anti-OX40 Fully Human Antibody	Ulcerative Colitis	Phase II in US, EU and others	In-House	POTELLIGENT® Human Antibody-Producing Technology
		<b>KHK4563</b> <b>Benralizumab</b> <b>Injection</b>	Anti-IL-5 Receptor Humanized Antibody	Chronic Obstructive Pulmonary Disease (COPD)	Phase III in JP	In-House	POTELLIGENT® Jointly Developed with AstraZeneca/MedImmune
				Eosinophilic Chronic Rhinosinusitis (ECRS)	Phase II in JP		
		<b>KHK4827</b> <b>Brodalumab</b> <b>Injection</b>	Anti-IL-17 Receptor A Fully Human Antibody	Psoriasis	Phase III in KR	Kirin-Amgen	
Axial Spondyloarthritis (axSpA)	Phase III in JP, KR and TW						
		<b>©ASKP1240</b> <b>Bleselumab</b> <b>Injection</b>	Anti-CD40 Fully Human Antibody	Recurrence of Focal Segmental Glomerulosclerosis (FSGS) in <i>de</i> <i>novis</i> kidney transplant recipients	Phase II in US	In-House	Human Antibody-Producing Technology Jointly Developed with Astellas
Central Nervous System		<b>KW-0761</b> <b>Mogamulizumab</b> <b>Injection</b>	Anti-CCR4 Humanized Antibody	HTLV-1 associated myelopathy (HAM)	Phase III in JP	In-House	POTELLIGENT®
		<b>©KW-6356</b> <b>Oral</b>	Adenosine A <sub>2A</sub> Receptor Antagonist	Parkinson's Disease	Phase II in JP	In-House	
Other		<b>©KRN23</b> <b>Burosumab</b> <b>Injection</b>	Anti-FGF23 Fully Human Antibody	X-linked Hypophosphatemia (XLH) in adult patients	Phase III in US, CA, EU, JP and KR	In-House	Human Antibody-Producing Technology Jointly Developed with Ultragenyx in US and EU
				X-linked Hypophosphatemia (XLH) in pediatric patients	Phase III in US, CA, EU, AU, JP and KR		
				Tumor Induced Osteomalacia(TIO)/Epidermal Nevus Syndrome (ENS)	Phase II in US		
					Phase II in JP and KR		
		<b>AMG531</b> <b>Romiplostim</b> <b>Injection</b>	Thrombopoietin Receptor Agonist	Aplastic Anemia	Phase II/III in JP and KR	Kirin-Amgen	
				Idiopathic (Immune) Thrombocytopenic Purpura	Phase III in CN		

 Updated since Mar. 31, 2018 (Area, Stage, Filed, Approved, etc.)  
 New Molecular Entity












V. R&D Pipeline

Ph I

 antibody  protein  small molecule




As of Jun. 30, 2018

Area		Code Name Generic Name Formulation	Mechanism of Action	Indication	Stage	In-House or Licensed	Remarks
Oncology		ⓄKHK2455 Oral	IDO 1 Inhibitor	Solid Tumor	Phase I in US	In-House	Combination with KW-0761
		ⓄKHK2823 Injection	Anti-CD123 Fully Human Antibody	Cancer	Phase I in UK	In-House	POTELLIGENT® Human Antibody-Producing Technology
		KW-0761 Mogamalizumab Injection	Anti-CCR4 Humanized Antibody	Solid Tumor	Phase I / II in US  Phase I in JP	In-House	POTELLIGENT®  Combination with Nivolumab (Jointly Developed with Bristol-Myers Squibb)  Combination with Nivolumab (Jointly Developed with Ono Pharmaceutical)
Immunology/ Allergy		ⓄKHK4083 Injection	Anti-OX40 Fully Human Antibody	Ulcerative Colitis Atopic Dermatitis	Phase I in JP Phase I in JP	In-House	POTELLIGENT® Human Antibody-Producing Technology
		KHK4827 Brodalumab Injection	Anti-IL-17 Receptor A Fully Human Antibody	Autoimmune Disease	Phase I in JP	Kirin-Amgen	
Central Nervous System		ⓄKHK6640 Injection	Anti-Amyloid Beta Peptide Antibody	Alzheimer's Disease	Phase I in EU Phase I in JP	Licensed from Immunas Pharma	
Others		KW-3357 Antithrombin Gamma Injection	Recombinant Human Antithrombin	Disseminated Intravascular Coagulation, Congenital Antithrombin Deficiency	Phase I in EU	In-House	


 Updated since Mar. 31, 2018 (Area, Stage, Filed, Approved, etc.)  
 New Molecular Entity

Updated since Mar. 31, 2018 (Area, Stage, Filed, Approved, etc.)

Filed • Approved

Area		Code Name Generic Name Formulation	Mechanism of Action	Indication	Stage	In-House or Licensed	Remarks
Nephrology		KRN1493 Cinacalcet Hydrochloride Oral	Calcium Receptor Agonist	Secondary Hyperparathyroidism	Approved in BN	Licensed from Shire-NPS	
Immunology/A llergy		KHK4827 Brodalumab Injection	Anti-IL-17 Receptor A Fully Human Antibody	Psoriasis	Approved in TW	Kirin-Amgen	
					Filed in HK		
Other		ⓄKRN23 Burosumab Injection	Anti-FGF23 Fully Human Antibody	X-linked Hypophosphatemia (XLH)	Approved in US	In-House	Human Antibody-Producing Technology Jointly Developed with Ultragenyx in US and EU
					Filed in CA		

Phase II, Phase III

Area		Code Name Generic Name Formulation	Mechanism of Action	Indication	Stage	In-House or Licensed	Remarks
Nephrology		ⓄRTA 402 Bardoxolone Methyl Oral	Antioxidant Inflammation Modulator	Diabetic Kidney Disease	Phase III in JP	Licensed from Reata	

<Appendix> Fujifilm Kyowa Kirin Biologics co. Ltd., Pipeline of Biosimilar

As of June 30th 2018

Code Name	Generic Name	Stage	Remarks
<b>FKB327</b>	Adalimumab (fully human anti-TNF- $\alpha$ monoclonal antibody)	Filed in EU	Fujifilm Kyowa Kirin Biologics Co., Ltd.
<b>FKB238</b>	Bevacizumab (humanized anti-VEGF monoclonal antibody)	Phase III in US, Europe and others	Centus Biotherapeutics Ltd.(*)

\* Centus Biotherapeutics Ltd. is a fifty-fifty joint venture between Fujifilm Kyowa Kirin Biologics Co., Ltd. and AstraZeneca.