MIRAE ASSET
Building on principles

Sector Briefing
July 22, 2016

Daewoo Securities Co., Ltd.

[Healthcare]

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Healthcare
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Healthcare Weekly Briefing

1. Major issues/events for this week

Samsung Bioepis files MAA application for Humira biosimilar (July 18th)

Samsung Bioepis announced on July 18th that the European Medicines Agency (EMA) accepted for review the company's marketing authorization application (MAA) for SB5, a biosimilar to Humira (rheumatoid arthritis treatment). Humira generated US$14bn in 2015. The company has already sold Benepali, an Enbrel biosimilar, and Flixabi, a Remicade biosimilar, in Europe,

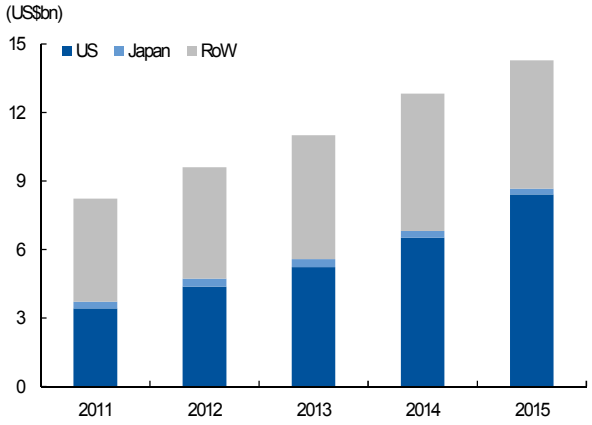
Samsung Bioepis conducted a phase 3 clinical trial of SB5 with 544 patients at 52 hospitals in seven countries.

* SB5 would be Samsung Bioepis's third anti-TNF-α biosimilar in Europe; if approved, it should boost the company's revenue growth.

Figure 1. AbbVie's Humira

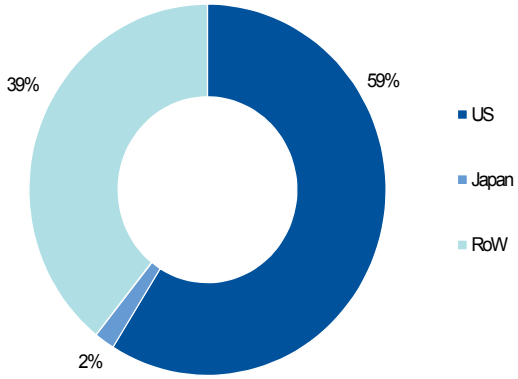
Source: AbbVie, Daewoo Securities Research

Figure 2. Humira sales trend



Source: AbbVie, Eisai, Mirae Asset Daewoo Research

Figure 3. Humira sales breakdown by region



Notes: As of 2015 (approximately US$14.3bn)
Source: AbbVie, Eisai, Mirae Asset Daewoo Research

Table 1. Global Humira biosimilar candidates

Developer	Drugs	Phase	Indication	Primary endpoint	Patients	Clinical region	Start	End
Amgen	ABP 501	Filed	RA, PP					
		Phase III	PP	PASI-75	350	EU, Canada, Australia	Oct. 13	Completed
		Phase III	RA	ACR20	526	US, EU	Oct. 13	Completed
		Phase III	RA	Safety study	467	US, EU	Apr. 14	Apr. 16
Boehringer	BI 695501	Phase I	Healthy subjects	PK study	193	New Zealand	Jul. 12	Completed
		Phase I	Healthy subjects	PK study	324	New Zealand, EU	Jan. 14	Completed
		Phase I	Autoinjector vs. prefilled syringe	PK study	66	EU	Oct. 15	Apr. 16
		Phase II	Autoinjector vs. prefilled		70	US, EU	Jan. 16	Jun. 16
		Phase III	RA	ACR20, DAS28-ESR	645	US, EU	Jan. 15	Mar. 16
		Phase III	RA	Safety study	400	US, EU	Jan. 16	Aug. 17
Fujifilm Kyowa Kirin Biologics	FKB-327	Phase III	RA	ACR20	729	US, EU	Dec. 14	Jun. 16
		Phase III	RA	Safety study	480	US, EU	Jun. 15	Jan. 18
		Pre-clinical	RA			Japan		
		Phase I	RA			UK		
Pfizer	PF-06410293	Phase III	RA	ACR20	560	US, EU	Jun. 15	Mar. 17
		Phase I	Healthy subjects	PK study	362	US	Sep. 14	Completed
		Phase I	Healthy subjects	PK study	210	US, EU	May 13	Completed
		Phase I	Autoinjector vs. prefilled syringe		164		Jan. 16	Jun. 16
Samsung Bioepis	**SB5**	**Phase I**	**RA**	**PK study**	**189**	**Germany**	**May 14**	**Completed**
		Phase I	**Pen vs. prefilled syringe**	**PK study**	**190**	**EU, New Zealand**	**Mar. 15**	**Completed**
		Phase II	**Pen vs. prefilled syringe**		**49**		**Sep. 15**	**Completed**
		Phase III	**RA**	**ACR20**	**544**	**Lithuania, Bulgaria, Poland, Czech Rep.**	**Apr. 14**	**Completed**
Sandoz	GP2017	Phase III	PP	PASI-75	448	US. EU	Dec. 13	Ongoing
Baxter/ Momenta	M923	Pre-clinical	Autoimmune disorders, cancer, inflammation			EU, US		
		Phase III	PP	PASI-75	827	EU, US	Sep. 15	Sep. 16
		Phase III	Autoinjector		32	US	Apr. 16	Dec. 16
		Phase I	Autoinjector vs. prefilled syringe	PK study	156	EU , US	Jan. 16	Jul. 16
		Phase III	PP	PASI-75	516	EU	Aug. 15	Ongoing
Biocad	BCD057	Phase I	Healthy volunteers	PK study	94	Russia	Jun. 15	Completed
Biocon/ Mylan	BMO2	Phase III	PP	PASI-75	294	US*, EU	Jun. 15	Nov. 16
		Phase I	Healthy volunteers	PK study	270	EU	Dec. 14	Completed
		Pre-clinical	Autoimmune disorders			India		Completed
Coherus	CHS-1420	Phase I	RA	PK study				Completed
		Phase III	PP	PASI-75	545	US, EU	Aug. 15	Mar. 17
Epirus	BOW050	Pre-clinical	Autoimmune disorders			US		Completed
		Phase III	Autoimmune disorders			*Global		
LG Life Sciences	LBAL	Phase I	Healthy volunteers	PK study	116	S. Korea	Aug. 14	Completed
		Pre-clinical	RA			S. Korea		Completed
Oncobiologics	ONS-3010	Phase III	CD, PS, RA, UC					
		Pre-clinical	CD, PS, RA, UC			US		Completed
PharmaPraxis	AMAB	Pre-clinical	CD, RA			Brazil		
Reliance Life Sciences	R-TPR-021	Phase III	RA			India		
Zydus Cadila	Unknown	Phase III	RA	ACR20	120	India	Oct. 13	Completed

Notes: PASI = Psoriasis Area Severity Index, ACR = American College of Rheumatology criteria, PK Study = pharmacokinetic study, DAS28 = disease activity score, ORR = overall response rate, CR = complete response, CDAI = Clinical Disease Activity Index, VAS = visual activity schedule, HAQ = health assessment questionnaire, PFS = progression-free survival, pCR = pathologic complete response, HbA1c = hemaglobin A1c. PP = plaque psoriasis, RA = rheumatoid arthritis, CD = Crohn's disease, PS = psoriasis, UC = ulcerative colitis, NHL = non-Hodgkin's lymphoma, FL = follicular lymphoma, DLBCL = diffuse Large B-cell Lymphoma, AS = ankylosing spondylitis, PA = psoriatic arthritis, mBC = metastatic breast cancer, NSCLC = non-small cell lung cancer, mCRC = metastatic colorectal cancer; Patent expiration – December 2016 US, April 2018 EU

Source: Bloomberg, Springer Healthcare, clinicaltrials.gov, EU clinical trials register, Mirae Asset Daewoo Research

Dong-A ST agrees to lower the cap on coverage for Stillen (July 19th)

Dong-A ST announced on July 19th that it reached an agreement with the National Health Insurance Service (NHIS) to pay a penalty of W11.9bn and lower the cap on insurance coverage for Stillen Tab. by 31% from W162 per tablet to W112 per tablet. The cut is set to be applied on July 25th.

* The cut in insurance coverage will likely have a negative impact on the company's earnings. However, the impact should fade over the medium to long term, as the company also sells Stillen 2X, an incrementally modified drug (IMD).

Figure 4. Dong-A ST's Stillen

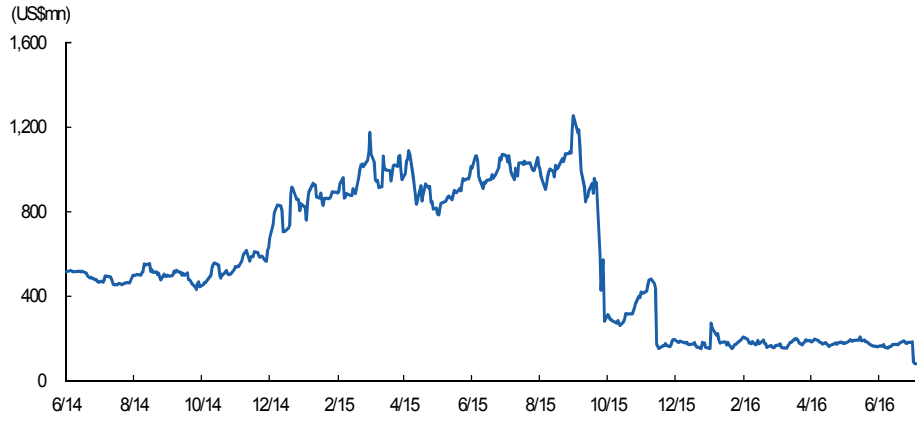
Source: Dong-A ST, Mirae Asset Daewoo Research

Zafgen suspends beloranib development (July 19th)

Zafgen announced on July 19th that, following a comprehensive review of its assets and clinical programs, as well as feedback from regulatory authorities, it will suspend beloranib development and focus on MetAP2 inhibitor ZGN-1061.

* We believe the suspension of US clinical trials will negatively affect investor sentiment on Chong Kun Dang, which licensed out beloranib to Zafgen. However, given that Chong Kun Dang is currently expanding its new drug pipeline, progress in the development of other products should offset the negative impact of Zafgen's decision.

Figure 5. Zafgen's market cap trend



Source: Factset, Mirae Asset Daewoo Research

ViroMed announces rights offering (July 21st)

ViroMed disclosed its plan to issue a rights offering to raise working capital. The firm will issue 1.65mn common shares, for W110,700 per share (W182.7bn in total). Any unclaimed stocks by existing shareholders will be sold on the market.

* The phase 3 clinical trial of VM202 in the US is expected to gain momentum following the rights offering. As such, the likelihood of the drug's technology out-licensing will decrease in the short term.

Table 2. Rights offering overview

Category	Notes		
Type and number of new shares	Common stock		1,650,000
Par value			W500
Shares outstanding before rights offering	Common stock		14,306,260
Uses of capital to be raised	Operations		W182,655,000,000
Method of rights offering			Public offering after allotment to shareholders
Offering price	Expected issue price	Common stock	W110,700
	Expected confirmation date		October 12, 2016
Record date for new share allotment			September 6, 2016
Allotment ratio for new shares			0.115334126
Priority ratio for employee ownership			-
Subscription date	Existing shareholders	Start	October 17, 2016
		End	October 18, 2016
Payment for new shares			October 25, 2016
Delivery date of new shares			November 4, 2016
Listing of new shares			November 7, 2016
Resolution by board of directors			July 21, 2016

Source: Dart, Mirae Asset Daewoo Research

Table 3. Viromed's pipeline

Code/project	Indications	Development
VM202-PAD	Ischemic disease	Approval of IND for phase 3 in US; Phase 2 in China
VM202-DPN	Diabetic neuropathy	Approval of IND for phase 3 in US
VM202-CAD	Ischemic heart disease	Preparing phase 2 in Korea
VM202-ALS	Amyotrophic lateral sclerosis	Phase 1/2a in US
VM501	Thrombocytopenia	Phase 3 in China
VM206	Breast Cancer	Preparing phase 2 in Korea

Source: Viromed, Mirae Asset Daewoo Research

LG Life Sciences (LGLS) wins a UNICEF vaccine bid (July 21st)

UNICEF recently notified LGLS that the firm won the international pentavalent vaccine bid. LGLS has also signed export contracts with individual Asian countries for the vaccine. In total, LGLS's international and individual contracts are worth W10bn.

Early this year, LGLS decided to participate in UNICEF's international bid with its in-house-developed drug Eupenta, which had gained the WHO's pre-qualification approval. Eupenta is Korea's first domestically developed pentavalent vaccine designed to prevent five childhood diseases—diphtheria, tetanus, whooping cough, hepatitis B, and meningitis—with a single injection.

* Eupenta revenue will grow full swing thanks to international and individual contracts.

Figure 6. LGLS's Eupenta

Source: LGLS, Mirae Asset Daewoo Research

Johnson & Johnson announces 2Q16 results (July 21st)

Johnson & Johnson released its 2Q results, including its Remicade and diabetes sales figures.

Remicade revenue came in at US$1.78bn (+6.7% YoY), including US$1.24bn (+13.6% YoY) from the US, US$359mn (+5.9% YoY) from non-US regions, and US$185mn (-23.2% YoY) in exports from the US.

The diabetes unit recorded revenue of US$471mn (-4.7% YoY), including US$177mn (-17.3% YoY) from the US and US$294mn (+5.0% YoY) from other regions.

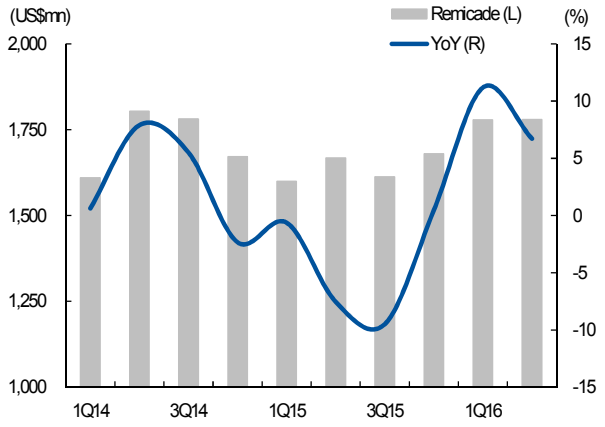
The firm confirmed through a conference call that exports from the US declined YoY due to biosimilar sales. Inflectra (a Remicade biosimilar) was also approved in the US, but the firm's 2016 earnings guidance does not take into account the likely entry of Inflectra into the US market (a lawsuit is pending to block the entry).

Diabetes revenue fell in the US following a 20% price cut to self-monitoring of blood glucose (SMBG).

* Johnson & Johnson confirmed that its lawsuit over the Remicade biosimilar Inflectra will be heard in August. The biosimilar product is anticipated to hit the US market as early as October 7th, but the launch date may be delayed depending on the result of the lawsuit. The US launch of Inflectra should help boost the earnings of Celltrion and Celltrion Healthcare.

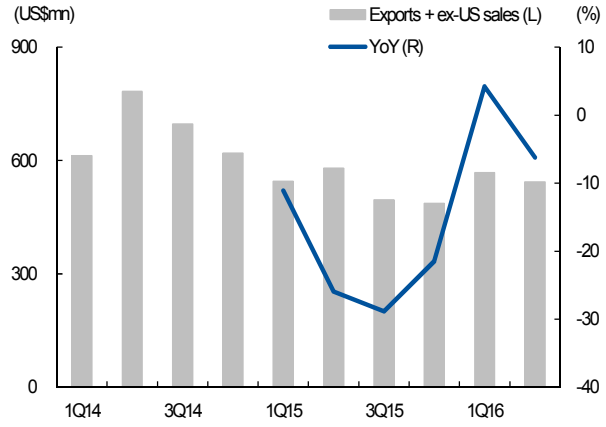
* Johnson & Johnson's diabetes revenue in the US remains stagnant. Looking ahead, we think those with superior price competitiveness (such as i-SENS of Korea) will outperform rivals.

Figure 7. Johnson & Johnson's Remicade sales



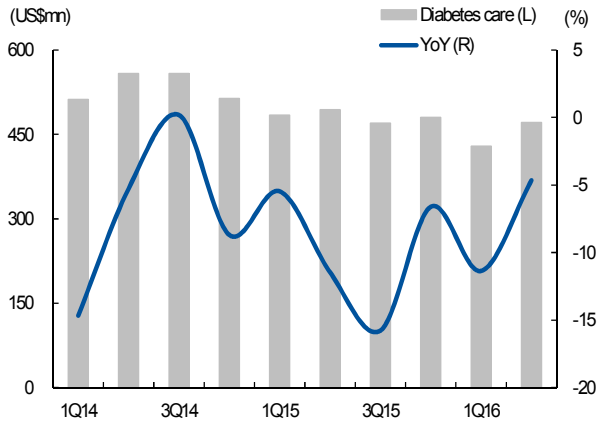
Source: Johnson & Johnson, Mirae Asset Daewoo Research

Figure 8. Johnson & Johnson's Remicade sales outside US + exports



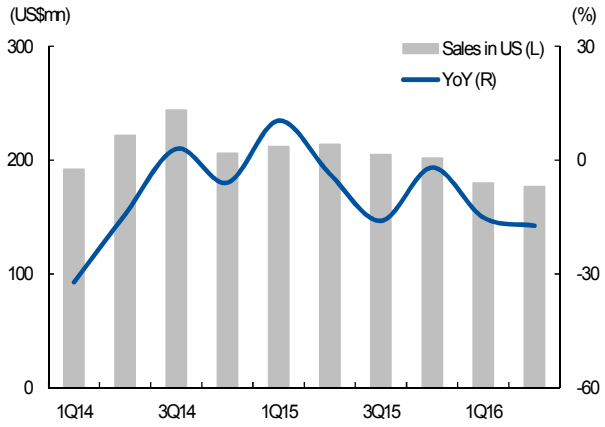
Source: Johnson & Johnson, Mirae Asset Daewoo Research

Figure 9. Johnson & Johnson's diabetes care revenue



Source: Johnson & Johnson, Mirae Asset Daewoo Research

Figure 10. Johnson & Johnson's diabetes care revenue in the US



Source: Johnson & Johnson, Mirae Asset Daewoo Research

Table 4. Johnson & Johnson's earnings call transcript: Excerpt related to Remicade and biosimilar

Remicade & biosimilar
Now, turning to sales and earnings, our sales and earnings guidance for 2016 takes into account several assumptions and key factors that I would like to highlight. As a reminder, our sales guidance for 2016 assumes no biosimilar entrants for PROCRIT or REMICADE in the U.S and our assumption remains unchanged with the recent FDA approval of Inflectra
Q: That's great. Thank you. And then on another topic that we spent a lot of time on I guess over the past year and we're now a quarter away from what looks like the competitive launch in the U.S., biosimilar side on REMICADE. Without asking you to tip your hand, of course, – I'd love to get a sense as to, can you – are there steps you can take – given your portfolio and your relationship with these payers and networks, are there steps you can take to sort of stop – I don't know what the right word is – potentially offset some of the potential impact or get ahead of some of the potential impact through some of the contracts that you're talking with these folks about? And I think you know the question I'm asking, and I'm sure you're not going to get into a ton of detail. But any color would be helpful as to the extent your ability to contract around that event.
A: Matt. Look, as we look at the landscape going forward, we fully predict that generics in biosimilars are going to be part of the competitive landscape. And look, we think that that is essential for the healthcare system. We think in the long run, it's actually a benefit for very innovative-focused companies because that's the only way you can relieve pressure over the long term. Of course, that's predicated upon the market and companies respecting intellectual property. It's very important to produce the right scientific information, so that we're guaranteeing patient safety and understanding the important clinical differences between some of these compounds, as they may or may not manifest themselves. And so we projected them. As we look at our strategic plan, we think they will be there. But we also feel that's why it's so important to keep innovating with new product launches going forward. And it's also critical to establish a strong critical mass in terms of products but also expertise and clinical data and information in certain platforms. And so for us in the immunology platform, we're very proud of the extensive track record that REMICADE, the TNF-alpha compound has had, and what it continues to do. We'll continue to defend our intellectual property around it. But at the same time if you look at compounds like STELARA and SIMPONI; not only have they both generated in excess of 30% growth this quarter, but we've also produced additional data that we think is going to be very important to patients and physicians in how they adopt these products. And these are already multi-billion-dollar platforms for Janssen and Johnson & Johnson. And then when you compound that with sirukumab and guselkumab again an IL-6 and IL-23 approach where we know there's a lot of patient variability, we think that's important. Also as we look at REMICADE itself, we know that there's about 2.4mm patients who've been treated with the compound. We know that about 70% of them in fact are getting good relief and good effects. We know that they're unlikely to be switched when they're getting a positive response from the therapy. And we also know that when we contract across the Janssen and Johnson & Johnson portfolio that it provides us a very important position with larger healthcare systems and networks. So that's the way we think about it, and that's the way we plan for it going forward.
Q: And just one quickly on REMICADE. I know Matt had asked a question on REMICADE, but you remain very confident that a biosimilar won't be launched in 2016. Has anything changed that you can reveal to us on the litigation front that gives you more confidence? Thank you.
A: Glenn, what we said is that our guidance does not assume any biosimilar launch in 2016. There are ongoing developments in the litigation. **There's a hearing scheduled for August related to the 471 patents**. We'll have to see what the results of that hearing are, so we don't know that yet. There was also a ruling issued in relation to another biosimilar, not our biosimilar, which made it very clear when the 180-day waiting period applies. And for us, that **180-day waiting period extends to October 6**. So obviously, there cannot be any launch before that date. And then as we've mentioned, we're continuously and vigorously defending our patent and will continue to do that. So whether or not a biosimilar launch happens is uncertain. But we have not included it in our guidance estimates. But as you know, our guidance of course is a range and between certain ranges of 3% to 4% in overall growth. So we feel confident about that in any event.

Source: Factset, Mirae Asset Daewoo Research

LG Life Sciences releases 2Q16 earnings (July 21st)

LG Life Sciences reported 2Q16 consolidated revenue of W130.5bn (+26.0% YoY) and operating profit of W10.6bn (+208.1% YoY).

Operating profit sharply exceeded the consensus.

Table 5. LGLS's 2Q16 results (Wbn, %, %p)

	2Q15	1Q16	2Q16P			Growth		Diff. (%)	
			Preliminary (A)	Mirae Asset Daewoo (B)	Consensus (C)	YoY	QoQ	A vs. B	A vs. C
Revenue	103.6	119.8	130.5	125.4	120.6	26.0	8.9	4.1	8.2
Operating profit	3.4	17.1	10.6	7.1	6.7	208.1	-38.2	49.2	58.1
OP margin	3.3	14.3	8.1	5.7	5.6	4.8	-6.2	2.5	2.6
Pretax profit	1.2	14.9	8.2	4.8	4.1	594.0	-44.9	71.0	100.2
Net profit	0.8	12.2	7.4	3.9	3.2	787.2	-39.5	88.8	130.1
Net profit attributable to controlling interest	0.9	12.1	7.4	3.9	3.4	753.6	-39.0	89.3	117.2

Source: LGLS, Mirae Asset Daewoo Research estimates

2. Published reports

Chong Kun Dang, "New in-licensed drugs to drive growth" (July 18th)

LG Life Sciences, "Profit growth to continue" (July 22nd)

3. Upcoming events and issues

Domestic 2Q earnings releases: Yuhan, Dong-A ST (July 27th), Green Cross, i-SENS, Hanmi Pharmaceutical, Chong Kun Dang (July 29th)

Overseas 2Q earnings releases: Gilead (GILD, July 25th), Eli Lilly (LLY, July 26th), Merck (MRK, July 29th), Sanofi (SAN, July 29th)

Generic version of Stillen to be launched (July 25th): Stillen (a gastritis treatment) is Dong-A ST's in-house developed herbal drug.

4. Company visits

Hwail Pharm

Hwail Pharm is expected to supply APIs to CrystalGenomics for Acelex, an arthritis treatment, starting in 2017.

The company is anticipated to begin API exports to Japan in 2017.

In 2015, the company recorded gains from the disposal of its stake in Nutribiotech.

* The supply of Acelex APIs and Japan-bound API exports starting in 2017 should drive up Hwail Pharm's earnings going forward.

GemVax & KAEL

Riavax (pancreatic cancer): GemVax & KAEL plans to file for insurance coverage in 2H16. The drug, which is currently in a phase 3 clinical trial, is being used on a conditional basis at Severance Hospital in Seoul. The drug is unavailable for prescription at other hospitals, however, as hospital drug committees have yet to approve it.

GV1001 (benign prostatic hyperplasia, *BPH): The drug is currently in a domestic phase 2 trial, results of which are likely to come out in 2016. The company plans to carry out a US trial and a domestic phase 3 trial.*

Hualian-GemVax: The joint venture is unlikely to generate revenue of RMB30bn within three years. Currently, its annual revenue is around W5bn.

* Results of the phase 2 clinical trial of GV1001 should determine the medium- to long-term value of the company. Riavax revenue should grow only if it is added to the national insurance coverage list.

Access Bio

WELLS BIO: The domestic subsidiary focuses on molecular diagnosis and bio sensors. It plans to go public in 1H18. WELLS BIO is likely to generate revenue full swing starting in 2H16, leading to a decline in consolidated corporate taxes for Access Bio.

Malaria diagnostic kit: The Global Fund is likely to make a massive investment in the kit in 2H16.

Access Bio is endeavoring to develop new products (e.g., diagnostic kits for Zika virus and HIV). New products are likely to generate revenue in 2H16, boosting earnings growth over the medium to long term.

* Revenue growth at WELLS BIO should lead to a decline in consolidated corporate taxes for Access Bio, boosting net margin.

Anterogen

The company is building a pipeline based on adipose-derived stem cells.

Epidermolysis bullosa treatment: The company is carrying out a phase 2 clinical trial in Korea and Japan. A milestone of US$5bn from a Japanese partner (which held a pre-IND meeting to win clinical trial approval) is slated to be recognized in 3Q. If the clinical trial in Korea and Japan end favorably, the company will likely carry out a US trial, as well.

Diabetic foot ulcer treatment: A phase 2 clinical trial was completed, and the drug is expected to enter a phase 3 trial.

* Progress in pipeline development should boost the company’s enterprise value over the medium to long term.

5. Share performances of major domestic and global healthcare stocks

Table 6. Korean healthcare stocks

Sector	Company	Code	Market cap (Wbn)	Price (Won)	Share performance (%)					
					1W	1M	3M	6M	12M	YTD
Pharma	Hanmi Pharmaceutical	128940	6,741.1	646,000	-3.87	-5.97	0.16	-10.65	26.72	-11.26
	Yuhan	000100	3,401.5	305,000	-4.24	-1.61	0.16	-1.77	8.54	11.93
	Yungjin Pharm	003520	2,140.3	12,050	1.69	2.99	103.20	385.89	412.77	465.73
	Green Cross	006280	2,126.9	182,000	0.83	-11.22	4.00	-18.20	-22.22	-0.55
	LG Life Sciences	068870	1,254.9	75,700	6.47	2.57	8.14	6.62	2.99	24.92
	Bukwang Pharmaceutical	003000	1,178.3	31,550	-0.47	-4.39	6.95	-2.92	11.23	23.97
	Dawoong Pharmaceutical	069620	1,141.3	98,500	-3.43	-5.29	4.12	20.71	-7.08	38.54
	JW Pharmaceutical	001060	1,064.6	56,800	-3.07	-3.89	46.20	31.18	72.62	55.62
	Dong-A ST	170900	1,051.3	124,500	-1.97	-10.43	-13.54	-24.32	-23.85	-15.31
	Jeil Pharmaceutical	**002620**	**1,020.2**	**68,700**	**-11.58**	**-31.64**	**-4.45**	**71.32**	**121.61**	**78.67**
Biosimilar	Celltrion	068270	12,160.3	104,300	4.20	8.53	3.06	-7.70	31.49	23.43
	Medy-Tox	086900	2,484.4	439,200	3.41	3.76	-0.41	-12.74	-23.97	-14.35
	Binex	053030	685.1	21,950	1.62	-0.68	10.30	19.29	-12.20	35.49
	Schnell Biopharmaceuticals	003060	503.0	6,220	-0.96	6.32	43.98	42.99	21.96	94.07
Hospital	CHA Biotech	085660	807.9	16,000	-1.23	-0.93	13.07	10.34	-7.25	12.68
Cell therapy	Kolon Life Science	102940	1,233.7	162,100	-4.87	6.50	-4.89	-24.68	-8.43	-15.72
	Medipost	078160	660.3	84,300	-2.09	-5.81	0.12	-14.50	-30.90	-12.91
	GemVax & KAEL	082270	591.9	19,350	-3.25	1.84	0.78	-9.37	-50.19	-14.19
	Green Cross Cell	031390	432.2	36,950	1.37	-11.92	-9.77	-20.96	-30.68	-18.88
	JW Shinyak	067290	425.6	10,900	-3.54	-3.54	12.49	24.57	27.63	27.04
	Pharmicell	005690	374.8	6,520	-3.83	-1.06	18.98	47.85	27.59	54.69
IVD	Seegene	096530	948.4	36,150	2.26	4.03	-2.03	-7.90	-46.84	-4.49
	InBody	041830	581.6	42,500	0.47	1.67	-6.70	-22.30	-18.58	-26.72
	i-SENS	099190	541.2	39,450	4.09	7.49	12.71	10.81	-1.21	15.86
	Access Bio	950130	217.9	8,050	-2.42	-0.49	4.01	11.81	-17.86	11.50
Gene analysis	Macrogen	038290	340.7	38,200	-1.80	-1.29	8.22	2.96	-21.72	10.09
	Theragen Etex	066700	206.5	7,420	1.37	5.85	15.22	10.25	-23.66	9.93
New drug/ IMD	**ViroMed**	**084990**	**1,785.4**	**124,800**	**-10.73**	**-13.03**	**-15.10**	**-37.69**	**-35.34**	**-32.21**
	Komipharm International	041960	1,628.6	29,900	-7.29	-13.46	-27.78	-27.07	26.16	-22.74
	Hanall Biopharma	009420	1,149.3	22,000	2.33	1.62	38.36	55.48	65.41	67.30
	Genexine	095700	985.6	55,700	-5.11	-4.13	-7.63	17.02	-19.62	18.64
	CrystalGenomics	083790	715.8	28,900	-5.71	-3.51	70.00	71.51	81.19	103.52
	Legochem Biosciences	141080	437.8	47,000	8.05	27.54	28.42	67.86	14.63	88.38
	Mezzion Pharma	140410	246.0	30,150	-4.89	-3.67	1.34	7.68	-28.98	9.44
	Medifron DBT	065650	172.2	6,720	6.67	4.51	51.01	95.35	32.81	93.10
API	Amicogen	092040	515.0	56,500	-3.91	-12.40	-11.72	-21.09	-46.65	-14.78
	Reyon Pharmaceutical	102460	438.0	33,950	2.72	7.78	9.87	-14.70	-21.32	-10.42
	Estechpharma	041910	191.0	16,700	-7.48	-28.17	-28.78	-37.45	-40.57	-28.94
	CKD Bio	063160	153.5	29,350	-3.14	-1.84	7.90	11.17	-2.49	6.34
Functional	Naturalendo Tech	168330	354.5	18,200	2.25	8.98	-16.90	-3.96	-35.12	-12.50
Dental	Osstem Implant	048260	1,131.4	79,200	3.53	-0.63	8.05	-4.23	27.74	-2.22
	DIO	**039840**	**866.3**	**57,100**	**23.33**	**17.73**	**-1.04**	**66.96**	**156.05**	**90.33**
	Value Added Technology	043150	585.3	39,400	0.90	7.07	-1.99	-10.05	35.16	-0.38
Solutions	Infinitt Healthcare	071200	217.6	8,920	1.94	-2.41	0.11	-7.95	-20.36	-4.90
	Ubcare	032620	179.9	4,465	6.31	5.43	9.84	18.44	36.75	23.17
	BIT Computer	032850	148.8	8,950	1.70	-0.67	16.23	9.68	24.13	15.19
Other equip.	Lutronic	085370	408.8	38,800	-6.39	-8.81	-9.35	-25.95	-37.92	-14.16
New listing	Caregen	214370	1,531.5	143,000	4.69	22.12	25.99	16.83	-	40.20
	Hugel	145020	1,152.7	351,000	1.83	15.84	12.50	60.27	-	76.74
	ST pharm	237690	942.7	51,000	7.37	-	-	-	-	-
	Boditech Med	206640	609.9	28,900	5.47	-3.34	-3.83	-29.51	-59.12	-22.00
	PharmaReaserch Products	214450	509.3	53,800	-0.37	-6.11	-15.28	-29.21	-	-26.30
	Green Cross LabCell	144510	446.4	42,300	2.67	-	-	-	-	-
	Qurient	115180	381.6	52,800	0.96	-2.22	22.51	-	-	-
	Anterogen	065660	246.7	33,050	-3.78	-2.36	0.15	-	-	-
	EyeGene	185490	238.6	23,800	-5.37	0.85	-1.45	2.59	-	61.90
	Kangstem Biotech	217730	232.7	16,650	-5.67	-3.48	15.22	3.74	-	52.75
Holding	Hanmi Science	008930	9,005.9	154,500	-1.59	-0.96	8.80	-4.92	16.30	19.77
	Green Cross Holdings	005250	1,660.1	35,300	0.00	-13.48	2.47	-26.53	-20.14	-15.85
	Dong-A Socio Holdings	000640	813.5	168,000	-1.18	-10.64	-12.95	-17.24	-18.05	-0.88
	Daewoong	003090	771.0	66,300	-0.60	4.74	11.06	16.32	-26.42	17.14
	Chong Kun Dang Holdings	001630	429.4	95,900	-2.14	-2.24	1.48	-20.41	-13.99	

Note: Stocks in bold gained or lost more than 10% in the last week

Source: FactSet, Mirae Asset Daewoo Research

Table 7. Global healthcare stocks

Region	Sector	Company	Currency	Mkt. cap (US$mn)	Price (local)	P/E		P/B		Share performance (%)					
						FY1	FY2	FY1	FY2	1W	1M	3M	6M	12M	YTD
US	Pharma (brand)	Johnson & Johnson	USD	344,243	125.15	18.7	17.6	4.9	4.5	1.7	7.5	10.4	29.4	24.9	21.8
		Pfizer	USD	222,641	36.71	15.0	14.0	3.6	3.5	-0.2	6.5	10.3	19.5	5.2	13.7
		Merck	USD	162,732	58.79	15.8	15.7	3.9	3.8	-1.4	3.1	3.6	14.5	1.1	11.3
		BMS	USD	126,033	75.5	29.2	23.3	8.2	7.1	-0.7	4.4	6.8	17.2	8.8	9.8
		AbbVie	USD	107,326	63.89	13.5	11.4	23.7	14.6	0.9	5.8	4.0	8.6	-9.5	7.8
		Allergan	USD	98,035	247.84	17.6	14.3	1.1	1.1	2.2	8.4	8.2	-16.8	-21.4	-20.7
		Eli Lilly	USD	88,749	80.4	22.6	20.1	5.7	5.5	0.2	10.0	3.3	-2.5	-6.9	-4.6
		Abbott	USD	63,232	43.04	19.5	17.4	2.9	2.7	2.2	11.1	-2.4	7.5	-15.6	-4.2
		Baxter	USD	25,459	46.1	28.1	24.3	2.1	2.0	-1.4	2.6	6.4	27.8	22.2	20.8
	Pharma (generic)	Teva	USD	49,935	54.63	10.4	9.2	1.6	1.5	0.8	6.7	-4.2	-13.6	-12.6	-16.8
		Mylan	USD	23,822	46.86	9.5	8.2	2.6	2.2	3.1	4.1	-3.0	-11.8	-31.0	-13.3
	Biotech	Amgen	USD	123,342	164.19	14.7	13.4	4.1	3.7	0.6	9.6	0.6	5.2	0.0	1.1
		Gilead	USD	116,188	87.24	7.3	7.1	6.3	4.5	0.7	5.8	-14.4	-5.0	-25.7	-13.8
		Celgene	USD	83,231	107.45	18.8	15.3	9.7	6.7	4.5	8.3	-2.8	-1.2	-22.3	-10.3
		Biogen	USD	61,871	282.45	14.4	13.7	5.1	4.3	8.5	20.4	-0.1	5.0	-27.9	-7.8
		Alnylam	USD	5,559	64.97	-	-	6.0	5.9	0.8	15.7	-9.6	-14.6	-51.3	-31.0
		Spectrum	USD	450	6.5	-	-	-	-	-2.3	-4.4	-14.5	25.2	-11.0	7.8
		Zafgen	**USD**	**82**	**2.99**	**-**	**-**	**-**	**-**	**-55.2**	**-50.6**	**-58.8**	**-66.2**	**-92.4**	**-52.5**
	Equipment	Medtronic	USD	122,547	87.94	18.9	17.0	2.3	2.2	-0.5	4.4	11.3	15.8	14.5	14.3
		Stryker	USD	45,835	122.56	21.3	19.2	4.6	4.3	0.4	5.1	12.0	30.5	24.4	31.9
		Zimmber	USD	25,018	125.29	15.7	14.3	2.5	2.2	-0.1	5.6	9.2	26.4	15.4	22.1
		Illumina	USD	22,273	151.31	44.9	38.0	9.1	7.4	1.7	7.4	5.4	-14.4	-30.4	-21.2
		DexCom	USD	6,912	82.84	-	265.7	24.4	17.4	6.8	6.9	21.1	11.9	-3.0	1.1
		Cepheid	USD	2,398	32.9	-	154.1	6.1	4.9	0.4	11.5	-6.9	-0.1	-47.4	-9.9
		Luminex	USD	961	22.17	27.9	27.8	2.4	2.3	-1.0	12.6	7.7	12.8	27.4	3.6
	Solutions	McKesson	USD	44,349	196.5	14.4	13.4	4.1	3.5	-0.3	8.2	10.2	15.5	-16.4	-0.4
		Cerner	USD	20,958	61.99	26.4	23.0	4.7	4.0	2.3	12.1	5.9	8.0	-14.0	3.0
Europe	Pharma (brand)	Novartis	CHF	191,797	81.6	17.6	16.2	2.5	2.5	1.6	6.2	9.5	-1.6	-17.1	-6.0
		Roche	CHF	173,664	248.4	16.9	15.6	8.3	6.9	-2.8	0.9	-1.4	-6.4	-9.7	-10.1
		Novo	DKK	136,984	371	24.2	21.7	17.5	14.8	-0.2	6.7	-1.5	-1.2	-7.0	-7.2
		Sanofi	EUR	106,024	76.12	13.8	13.7	1.7	1.6	0.6	7.0	-3.0	-0.1	-21.9	-3.2
		GSK	GBP	105,778	16.425	18.1	17.0	19.7	20.2	-0.5	15.7	10.6	18.0	21.7	19.6
		Bayer	EUR	83,172	91.45	12.7	11.6	2.9	2.6	-2.6	-0.4	-17.1	-13.4	-31.1	-21.0
		AstraZeneca	GBP	76,279	45.635	15.2	15.6	4.4	4.6	1.4	17.4	10.9	4.7	6.6	-1.1
		Shire	GBP	57,563	48.45	15.1	12.8	4.0	3.4	0.4	20.2	13.3	14.6	-11.3	3.1
		Merck KGaA	EUR	46,650	97.56	16.7	15.8	3.1	2.9	3.6	8.7	19.2	18.3	2.7	8.9
		Grifols	EUR	15,086	19.95	22.2	19.6	3.8	3.3	1.0	3.0	0.5	2.9	2.0	-6.4
		UCB	EUR	14,263	68.73	22.8	18.7	2.3	2.2	1.1	5.2	-5.0	-14.9	-3.0	-17.4
		Perrigo	ILS	13,546	363.9	11.6	10.5	1.3	1.2	-0.2	-1.3	-24.6	-37.5	-49.4	-35.6
		Lundbeck	DKK	7,867	269.4	39.6	26.2	5.3	4.5	3.1	14.5	22.7	21.4	66.1	14.4
		Ipsen	EUR	4,925	54.52	18.6	16.5	3.3	2.9	1.0	1.9	4.1	0.9	-3.0	-10.6
	Pharma (generic)	Teva	ILS	50,532	212.7	10.5	9.3	1.6	1.5	0.9	8.0	-1.3	-13.4	-12.0	-16.4
		Actelion	CHF	17,785	168.1	23.1	22.5	10.9	8.9	-0.5	8.0	9.2	26.7	17.1	20.4
		Stada	EUR	3,162	46.115	17.0	15.2	2.7	2.5	0.0	1.7	24.9	41.7	40.6	23.5
	CMO	Lonza	CHF	9,522	177.9	22.7	19.8	3.9	3.5	6.0	10.4	10.7	14.8	28.9	9.1
	Equipment	Straumann	CHF	6,044	376.5	31.7	28.0	8.1	6.8	1.3	0.3	14.3	27.8	34.2	23.4
		Biomerieux	EUR	5,336	123	27.4	23.6	3.0	2.7	2.5	6.8	7.1	10.6	16.0	11.9
Japan	Pharma (brand)	Takeda	JPY	32,852	4458	35.2	40.7	1.8	1.9	1.9	1.0	-19.2	-19.8	-27.6	-26.5
		Astellas	JPY	32,297	1656	18.1	16.5	2.6	2.4	3.0	1.8	5.3	3.7	-13.3	-4.4
		Daiichi	JPY	16,954	2599	26.1	27.4	1.4	1.4	-0.3	1.7	-2.5	10.1	-1.5	3.5
		Eisai	JPY	16,865	6275	57.9	52.2	3.2	3.2	4.9	6.6	-14.1	-11.6	-29.0	-22.2
	Pharma (generic)	Sawai	JPY	2,763	7970	15.9	14.6	2.1	1.9	0.6	4.7	9.5	2.3	12.3	-4.1
		Nichi-Iko	JPY	1,271	2264	15.0	12.9	1.5	1.4	3.1	6.0	-18.8	-10.7	-41.5	-22.1
		Towa	JPY	892	5580	11.6	10.9	1.2	1.1	5.1	0.2	8.6	-11.4	-35.8	-26.2
India	Pharma	Sun Pharma	INR	28,107	784.8	26.6	22.5	5.0	4.2	1.9	6.1	-4.3	-0.7	-5.7	-4.3
		Lupin	INR	11,352	1691.95	25.5	21.4	5.7	4.6	1.3	15.5	8.6	-1.4	-7.2	-7.9
		Dr. Reddy's	INR	9,156	3608	26.0	21.7	4.3	3.7	0.7	16.3	15.0	25.1	-6.2	16.3
		Cipla	INR	6,200	518.5	23.8	19.2	3.1	2.7	0.5	7.2	-2.4	-11.1	-23.2	-20.2
	Biotech	**Bicon**	**INR**	**2,347**	**788.5**	**30.6**	**26.2**	**3.5**	**3.2**	**11.8**	**10.2**	**43.1**	**63.5**	**71.2**	**52.2**
Australia	Pharma	CSL	AUD	40,753	119.01	32.7	28.2	14.6	12.3	5.1	9.6	13.7	11.0	25.8	13.0

Note: Stocks in bold gained more than 10% in the last week

Source: Factset, Mirae Asset Daewoo Research

APPENDIX 1

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