

# Healthcare

## (Overweight/Maintain)

### Healthcare Weekly Briefing

#### 1. Major issues/events for this week

##### Yuhan licenses out a lung cancer drug (July 28<sup>th</sup>)

Yuhan announced that it signed a licensing-out agreement with Luoxin Biotechnology for its new drug candidate YH25448, a targeted therapy for non-small cell lung cancer.

Under the agreement, Yuhan will receive milestone payments totaling US\$120mn from Luoxin, with an upfront payment of US\$6mn.

YH25448 is a third-generation EGFR-targeting tyrosine kinase inhibitor currently in the pre-clinical trial stage.

- \* Gains from the agreement will likely be shared with Oscotec, a co-developer of YH25448. Recognition of the upfront payment should contribute to Yuhan's earnings growth in 2H.
- \* Progress in the development of YH25448 should boost Yuhan's value going forward.
- \* Meanwhile, Hanmi Pharmaceutical has licensed out its EGFR inhibitor HM61713 to ZAI Lab (China) and Boehringer Ingelheim (Germany).

**Table 1. Yuhan's YH25448 licensing-out agreement**

	Details
Type of deal	Licensing-out agreement
Licensee	Luoxin Biotechnology (China)
Drug	YH25448, a new drug candidate for the treatment of non-small cell lung cancer.
Agreement details	Luoxin has exclusive rights to the development, approval, production, and commercialization of YH25448 in mainland China, Hong Kong, and Macau. Yuhan will receive an upfront payment of US\$6mn and is entitled to potential milestone payments of US\$120mn.
Date of signing	July 27, 2016
BOD resolution	July 27, 2016
Other details that could affect investment decision	YH25448 is a third-generation EGFR-targeting tyrosine kinase inhibitor currently in the pre-clinical trial stage. Yuhan is also entitled to receive a running royalty on sales in addition to the aforementioned payments. Yuhan will disclose any major changes to the agreement or other events related to the agreement in a prompt manner.

Source: Dart, Mirae Asset Daewoo Research

**Table 2. Yuhan's R&D pipeline**

	Code	Indication	Research	Candidate profiling	Pre-clinical	Phase 1	Phase 2	Phase 3
Digestive	YH12852	Functional dyspepsia, chronic constipation						
Cardiovascular/ metabolic	YH25723	Diabetes						
	YH22189	Hypertension/ hyperlipidemia						
	YH22162	Hypertension						
	YH14755	Hyperlipidemia/diabetes						
	YH14617	Diabetes						
	YH18406	Diabetes						
	YH25348	Diabetes						
Inflammatory	YH-siRNA2	Psoriasis, tumor						
	YH-siRNA1	Idiopathic fibrosis, Hypertrophic scar						
	YH-NCE3	Grave's disease						
	YH-BIO	Grave's disease						
	YH-NCE2	Psoriasis, tumor						
	YH14618	Degenerative disc disease						
	YH1177	Otitis media						
	YH23537	Periodontitis, arthritis						
Cancer	YH-NCE1	COLD						
	YH25448	Tumor						
	YH-siRNA3	Tumor						
	YH-NCE4	Anti-cancer						
	YH24931	Anti-cancer						

Source: Yuhan, Mirae Asset Daewoo Research

**Table 3. Summary of Hanmi Pharmaceutical's deal with Boehringer Ingelheim for Olmutinib**

	Detail
Type of agreement	Licensing-out
Licensee	Boehringer Ingelheim (Germany)
Drug	HM61713, a targeted therapy for the treatment of EGFR mutation-positive lung cancer
Agreement details	Boehringer Ingelheim has exclusive rights to the development, approval, production, and commercialization of HM61713 across the globe, excluding Korea, China, and Hong Kong. Hanmi will receive an upfront payment of US\$50mn and is entitled to potential milestone payments of US\$680mn.
Date of signing	July 28, 2015
BOD resolution	July 28, 2015
Other details that could affect investment decision	The agreement should take effect immediately after clearance under the Hart-Scott-Rodino Antitrust Improvements Act. Hanmi is also entitled to tiered double-digit royalties on future sales in addition to the aforementioned payments. Hanmi will disclose any major changes to the agreement or other events related to the agreement in a prompt manner.

Source: Dart, Mirae Asset Daewoo Research

**Table 4. Summary of Hanmi Pharmaceutical's deal with ZAI Lab for Olmutinib**

	Detail
Type of agreement	Licensing-out
Licensee	ZAI Lab (China)
Drug	HM61713, a targeted therapy for the treatment of EGFR mutation-positive lung cancer
Agreement details	ZAI Lab has exclusive rights to the development, approval, production, and commercialization of HM61713 in China (including Hong Kong and Macao) Hanmi will receive an upfront payment of US\$7mn and is entitled to potential milestone payments of US\$85mn.
Date of signing	November 20, 2015
BOD resolution	November 20, 2015
Other details that could affect investment decision	Hanmi is also entitled to tiered royalties on future sales in addition to the aforementioned payments. Hanmi will disclose any major changes to the agreement or other events related to the agreement in a prompt manner.

Source: Dart, Mirae Asset Daewoo Research

**Table 5. EGFR-inhibitor global development**

Drug	Originator	Indication	Phase	Drug	Originator	Indication	Phase
Theliatinib	Hutchison MediPharma	Solid tumors	I	Gefitinib	AstraZeneca	Non-small cell lung cancer	L
TAS 121	Taiho Pharmaceutical	Non-small cell lung cancer	I			Non-small cell lung cancer	II
Sym 015	Symphogen	Solid tumors	I			Head and neck cancer	I
Simotinib	Advenchen Laboratories	Non-small cell lung cancer	I	GC 1118A	Green Cross	Gastric cancer	I
SCT 200	Sinocelltech	Colorectal cancer	I			Colorectal cancer	I
Rociletinib	Avila Therapeutics	Non-small cell lung cancer	PR	Futuximab/ modotuximab	Symphogen	Glioma	II
RM 1929	Aspyrian Therapeutics	Head and neck cancer	I			Colorectal cancer	II
Rindopepimut	Duke University, Johns Hopkins University	Glioblastoma Solid tumors	III I			Esophageal cancer	I
PF 6747775	Pfizer	Non-small cell lung cancer	I	Erlotinib	OSI	Non-small cell lung cancer	L
Olmotinib	Hanmi Pharmaceutical	Non-small cell lung cancer	R			Pancreatic cancer	L
		Non-small cell lung cancer	III			Ependymoma	III
		Non-small cell lung cancer	I			Non-small cell lung cancer	III
NRC 2694A	Natco Pharma	Solid tumors	I			Head and neck cancer	III
		Breast cancer	I			Bladder cancer	II
Nimotuzumab	CIMYM	Nasopharyngeal cancer	L			Non-small cell lung cancer	II
		Glioma	L			Head and neck cancer	II
		Glioblastoma	L			Gynaecological cancer	II
		Head and neck cancer	L			Squamous cell cancer	II
		Pancreatic cancer	III			Brain metastases	II
		Non-small cell lung cancer	III			Glioblastoma	II
		Gastric cancer	III			Ependymoma	II
		Cervical cancer	III			Myelodysplastic syndromes	I
		Pancreatic cancer	III	Epitinib	Hutchison MediPharma	Solid tumors	I
		Head and neck cancer	III			Non-small cell lung cancer	I
		Non-small cell lung cancer	III	Depatuxizumab	Ludwig Institute	Solid tumors	I
		Breast cancer	I	Cetuximab BS	Shanghai Zhangjiang	Colorectal cancer	II
		Head and neck cancer	I	Cetuximab BS	R-Pharm	Head and neck cancer	III
MM 151	Merrimack	Colorectal cancer	I	Cetuximab BB	Mabtech	Colorectal cancer	III
		Solid tumors	I	Cetuximab BB	GLYCOTOPE	Head and neck cancer	II
Larotinib	HEC Pharm	Pancreatic cancer	I			Gastric cancer	I
Icotinib	Zhejiang Beta Pharma	Non-small cell lung cancer	L			Solid tumors	I
		Brain metastases	III			Colorectal cancer	I
		Nasopharyngeal cancer	III			Renal cancer	I
		Esophageal cancer	III			Non-small cell lung cancer	I
		Non-small cell lung cancer	I	AZD 3759	AstraZeneca	Non-small cell lung cancer	II
		Pancreatic cancer	I	Avitinib	Hangzhou ACEA	Non-small cell lung cancer	I
		Psoriasis	I	ASP 8273	Astellas Pharma	Non-small cell lung cancer	III
				Hemay 020	Hainan General Sanyang	Non-small cell lung cancer	I
						Solid tumors	I

Notes: L = Launch, R = Registration, PR = Pre-registration, III = Phase 3, II = Phase 2, I = Phase 1, BS = Biosimilar, BB = biobetter

Source: Bloomberg, Mirae Asset Daewoo Research

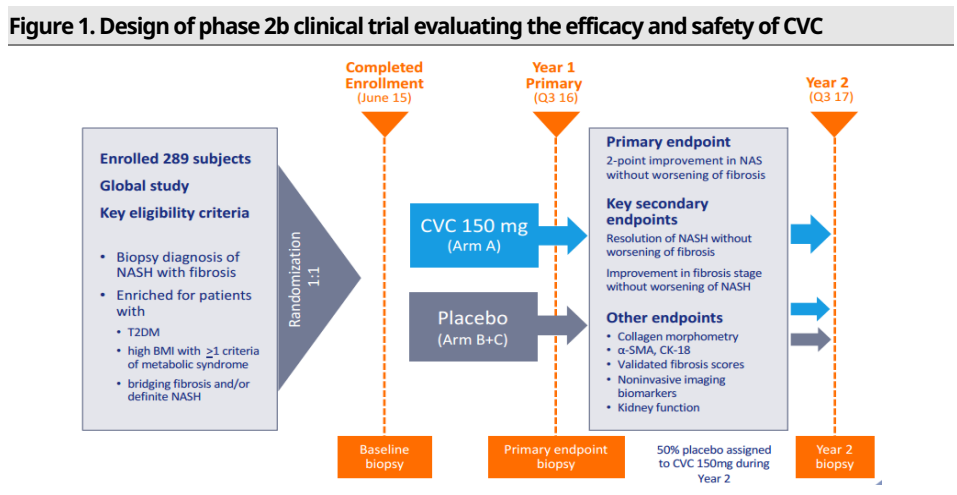
**TBRA announces results from its phase 2b clinical trial of CVC (July 25<sup>th</sup>)**

On July 25<sup>th</sup>, Tobira Therapeutics (TBRA) announced results from its phase 2b clinical trial evaluating the efficacy and safety of cenicriviroc (CVC) for the treatment of non-alcoholic steatohepatitis (NASH). Although the study did not meet its primary endpoint of a two-point reduction in the NAFLD Activity Score, it demonstrated a significant improvement in fibrosis of at least one stage without worsening of NASH, one of two key secondary endpoints. The intent-to-treat population saw a 20% decrease in fibrosis for the drug after a year of treatment (vs. 10 % for placebo; p=0.02). CVC was effective in reducing fibrosis of all three stages.

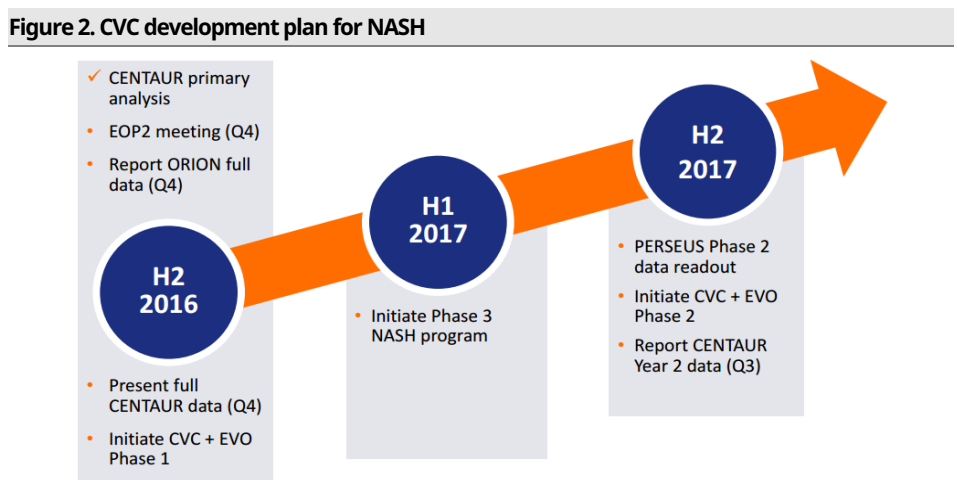
\* In the phase 2b clinical trial conference call, TBRA revealed that it will conduct a phase 3 clinical trial in 2017, focusing on improving fibrosis. In addition, the company mentioned that it planned to have a meeting on the phase 3 clinical trial with Food and Drug Administration (FDA) officials. Furthermore, the company plans to start a phase 1 clinical trial of a complex of CVC and evogliptin at the end of this year.

\* Dong-A ST has licensed out evogliptin to TBRA.

\* Progress in the development of the complex of CVC and evogliptin should boost the value of evogliptin.

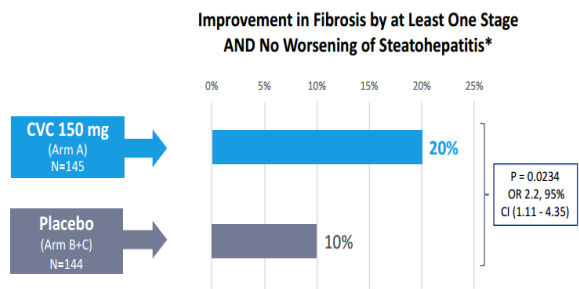


Source: Tobira, Mirae Asset Daewoo Research



Source: Tobira, Mirae Asset Daewoo Research

Figure 3. Phase 2b efficacy results of CVC



**Other NAFLD related endpoints**

- NAS with no worsening of fibrosis: comparable to placebo
- Resolution of NASH with no worsening of fibrosis: comparable to placebo

Source: Tobira, Mirae Asset Daewoo Research

Figure 4. Phase 2b safety results of CVC

**Grade ≥ 2 Drug Related Treatment Emergent AE in ≥ 2% in Any Group**

Adverse Event, n (%)	CVC 150 mg (N=144)	Placebo (N=144)	Total (N=288)
Fatigue	4 (2.8)	1 (0.7)	5 (1.7)
Diarrhea	3 (2.1)	1 (0.7)	4 (1.4)
Headache	2 (1.4)	5 (3.5)	7 (2.4)

Source: Tobira, Mirae Asset Daewoo Research

Table 6. Conference call on CVC phase 2b clinical trial results

**CVC phase 2b clinical trial results**

Phase 2b clinical trial evaluating the efficacy and safety of cenicriviroc (CVC) for the treatment of NASH in 289 adults with liver fibrosis. **Although the study did not meet its primary endpoint of a two-point reduction in the NAFLD Activity Score, CENTAUR did demonstrate a clinically and statistically significant improvement in fibrosis of at least one stage without worsening of NASH, one of two key secondary endpoints, after only one year of treatment.**

To be frank, an improvement in fibrosis without worsening of NASH is a higher hurdle and we believe that it is likely to be more meaningful for patients with this disease. We did not anticipate that we would have such a significant effect on fibrosis up to only one treatment which is what we look at multiple end points in this Phase 2b study.

**Our experience in conducting the CENTAUR Phase 2b study will position us well for the pivotal trial.** We plan to meet with regulators by the end of the year to discuss the Phase 3b program in detail. We believe, we're well positioned to initiate our global pivotal study next year. Furthermore, **these data confirm the rationale of combining cenicriviroc with our second proprietary agent, evogliptin, which targets metabolic pathways. We plan to initiate clinical studies by the end of the year, supporting our strategy to develop cenicriviroc as a cornerstone of NASH therapy both as a single agent and in combination with metabolic lead targeted agents.**

We're very excited about these results, and look forward to sharing the broader data set with you later this year. First, I'll start off with a little background on cenicriviroc, and then share additional details on the study. CVC is an oral once daily potent immunomodulator that blocks CCR2 and CCR5 two chemokine receptors, which are intricately involved in the inflammatory and fibrogenic pathways in NASH that promote liver damage, often leading to cirrhosis, liver cancer or liver failure. This mechanism hits the immuno-inflammatory response to the metabolic abnormalities seen in NASH. We learned from our data, that this mechanism is most impactful on the fibrosis endpoint, which will be the focus of our future study. We believe that CVC has a potential to play a differentiated role in the management of NASH and liver fibrosis, giving it a potential to have a disease modifying impact.

the study showed no difference in the NAFLD Activity Score or resolution of steatohepatitis at year one. We are still evaluating the data to better understand why these endpoints were not met and we'll reevaluate them again at year two. That being said, we believe that we have met the most clinically relevant endpoint by showing regression in fibrosis. In the intent-to-treat population or ITT, the study demonstrated that significantly more patients treated with CVC for just one year saw an improvement in fibrosis by at least one stage without worsening of steatohepatitis compared to placebo. **This CVC arm saw a 20% reduction versus a 10% reduction in the placebo arm with a P-value of 0.02.** Another way of looking at this, patients treated with CVC were twice as likely to have improvement in fibrosis in those receiving placebo. CVC showed anti-fibrotic activity across all three stages of fibrosis, demonstrating a robust and consistent anti-fibrotic response. In addition, a favorable impact on well established markers of the systemic inflammation was observed in CVC treated patients. Importantly, given the need for well tolerated therapies in chronic setting, **the safety profile at CVC was comparable to placebo,** the most commonly reported drug related clinical adverse events of at least moderate severity in the CVC arm were fatigue at 2.8%, and diarrhea at 2.1%. These observations are consistent with our previous clinical experience with CVC.

To echo Laurent's comments, we are all very excited about these results. Our recent paper published in gastroenterology in January 2015, put this in context quite well. In the seminal paper, Anglo reported a longitudinal study of 619 patients diagnosed with NAFLD and followed up with serial biopsies for period of 12.6 years. We concluded that fibrosis with the only histological feature of NASH associated independently with long-term overall mortality, liver transplantation and liver related event. Achieving significant after only one year and what is considered the most challenging endpoint surely exceeded our expectations.

Q: And then my last question, I'll get back into queue is, how quickly do you think you can get the next study up enrolling and do you plan to meet with the FDA to confirm your plans for using – for focusing on the fibrosis and – as the primary endpoint of your next study? can you use CENTAUR as one of your two registration studies?

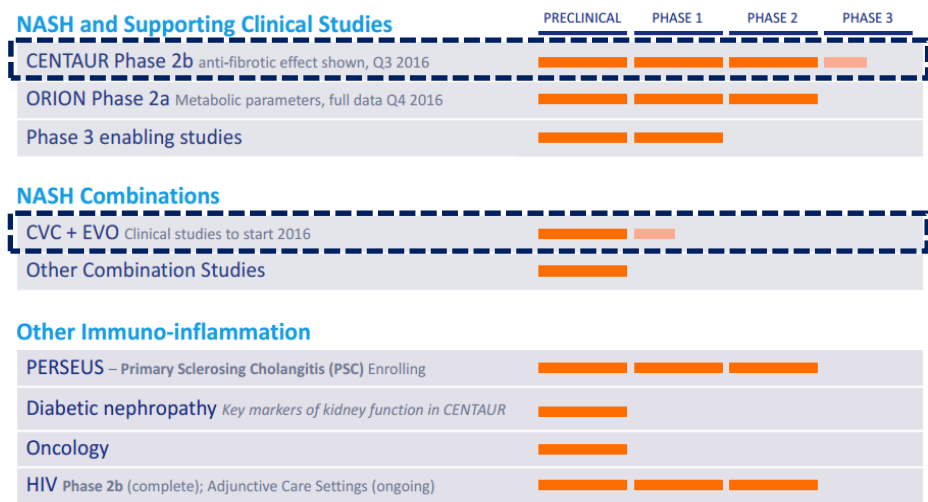
A: **We are planning to meet with the FDA by the end of the year to discuss the details of Phase 3 study,** our understanding based on communication with regulators is that the one point improvement without – in fibrosis without worsening of NASH is the regulatory approval endpoint. We will confirm that as well as a specific design of the Phase 3 trial with the agency when we meet with them and the plan is to start the study as soon as possible next year.

Q: I just wanted to ask as you proceed with plans with the FDA and looking at endpoints for Phase 3. Give that, a lot of things are still obviously up in the year in terms of endpoints and resolution, with the FDA and your discussions with them. What is your position right now, in thinking about the Phase 3 in terms of one trial or two trials and any secondary endpoints that might be considered by the agency? Thanks.

A: So, let me just clarify here Ed, and thanks for asking that question. I know, that in the absence of guidance that is published, one needs to be privy to conversation and that were made in various forms. So, the state-of-the-art in NASH is that, there are two potentially registration endpoints and those are one, NASH evolution without worsening fibrosis or one point improving fibrosis without worsening of NASH, the one we met in our CENTAUR Phase 2b study. Either one of these are potentially approvable under accelerated approval Subpart H. And they need to be confirmed by outcome studies that we'll follow patients until they meet clinical outcome meaning overall mortality, liver fibrosis, liver transplant et cetera. Obviously, we will confirm the design of the study based on what we've seen and interaction with the FDA, but based on direct communication with the agency. They have indicated that either one of these two are indeed endpoints are suitable for marketing application. So great clarity around these.

Source: Factset, Mirae Asset Daewoo Research

**Figure 5. Tobira's R&D pipeline**



Notes: "EVO" in NASH combination refers to evogliptin out-licensed from Dong-A ST  
 Source: Tobira, Mirae Asset Daewoo Research

**Figure 6. Tobira's market cap and P/E trends**



Source: Bloomberg, Mirae Asset Daewoo Research

### Yuhan's 2Q16 earnings results (July 27<sup>th</sup>)

For 2Q, Yuhan reported non-consolidated revenue of W330.5bn (+22.7% YoY), operating profit of W17.6bn (-20.2% YoY), and net profit of W19.2bn (+12.2% YoY).

\* Operating profit fell far short of the consensus.

**Table 7. Yuhan's 2Q16P results**

(Wbn, %, %p)

	2Q15	1Q16	2Q16P			Growth		Diff.	
			Preliminary	Mirae Asset Daewoo	Consensus	YoY	QoQ	Mirae Asset Daewoo	Consensus
Revenue	269.4	274.2	330.5	301.2	306.4	22.7	20.5	9.7	7.9
Operating profit	22.1	18.4	17.6	22.1	21.5	-20.2	-4.6	-20.4	-18.2
OP margin	8.2	6.7	5.3	7.3	7.0	-2.9	-1.4	-2.0	-1.7
Pretax profit	23.8	70.2	26.8	25.5	24.6	12.6	-61.8	5.2	9.0
Net profit	17.1	55.0	19.2	19.7	18.3	12.2	-65.1	-2.6	5.0

Source: Yuhan, Mirae Asset Daewoo Research estimates

### Dong-A ST's 2Q16 earnings results (July 27<sup>th</sup>)

For 2Q, Dong-A ST reported non-consolidated revenue of W152.7bn (+9.6% YoY), operating profit of W8.2bn (-47.4% YoY), and net loss of W3.8bn (TTR YoY).

\* Operating profit fell far short of the consensus.

**Table 8. Dong-A ST's 2Q16P results**

(Wbn, %, %p)

	2Q15	1Q16	2Q16P			Growth		Diff.	
			Preliminary	Mirae Asset Daewoo	Consensus	YoY	QoQ	Mirae Asset Daewoo	Consensus
Revenue	139.3	146.9	152.7	150.1	148.8	9.6	4.0	1.8	2.6
Operating profit	15.6	11.7	8.2	12.7	13.0	-47.4	-30.2	-35.6	-37.1
OP margin	11.2	8.0	5.4	8.5	8.7	-5.8	-2.6	-3.1	-3.4
Pretax profit	15.3	6.0	-5.0	3.8	6.1	TTR	TTR	NM	NM
Net profit	12.1	4.5	-3.8	3.2	3.6	TTR	TTR	NM	NM

Source: Dong-A ST, Mirae Asset Daewoo Research estimates

### Green Cross' 2Q16 earnings results (July 27<sup>th</sup>)

For 2Q, Green Cross reported consolidated revenue of W303.5bn (+13.1% YoY), operating profit of W24bn (-20.5% YoY), and net profit of W16.9bn (-42.7 YoY).

\* Operating profit missed the consensus.

**Table 9. Green Cross's 2Q16P results**

(Wbn, %, %p)

	2Q15	1Q16	2Q16P			Growth		Diff.	
			Preliminary	Mirae Asset Daewoo	Consensus	YoY	QoQ	Mirae Asset Daewoo	Consensus
Revenue	268.4	245.8	303.5	326.4	304.6	13.1	23.5	-7.0	-0.3
Operating profit	30.2	10.9	24.0	31.3	25.6	-20.5	121.2	-23.2	-6.0
OP margin	11.3	4.4	7.9	9.6	8.4	-3.3	3.5	-1.7	-0.5
Pretax profit	39.8	8.1	20.7	35.7	27.6	-48.0	153.8	-42.1	-25.2
Net profit	29.5	6.4	16.9	26.5	19.7	-42.7	162.7	-36.3	-14.3
Net profit attributable to controlling interests	28.3	5.3	16.1	26.3	19.5	-43.1	205.5	-38.9	-17.5

Source: Green Cross, Mirae Asset Daewoo Research estimates

### Hanmi Pharmaceutical's 2Q16 earnings results (July 28<sup>th</sup>)

On a consolidated basis, Hanmi Pharmaceutical reported 2Q revenue of W234.5bn (-4.1% YoY), operating profit of W6.4bn (+161.3% YoY), and net profit of W21.4bn (+69.7% YoY).

\* Operating profit fell far short of the consensus

**Table 10. Hanmi Pharmaceutical's 2Q16P results**

(Wbn, %, %p)

	2Q15	1Q16	2Q16P			Growth		Diff.	
			Preliminary	Mirae Asset Daewoo	Consensus	YoY	QoQ	Mirae Asset Daewoo	Consensus
Revenue	244.5	256.4	234.5	244.2	234.8	-4.1	-8.5	-4.0	-0.1
Operating profit	2.4	22.6	6.4	14.2	8.8	161.3	-71.7	-55.0	-26.9
OP margin	1.0	8.8	2.7	5.8	3.7	1.7	-6.1	-3.1	-1.0
Pretax profit	1.9	34.9	21.4	23.8	14.0	1,016.5	-38.6	-10.1	52.6
Net profit	12.6	41.0	21.4	19.9	11.7	69.7	-47.9	7.3	82.5
Net profit attributable to controlling interests	11.3	38.1	20.1	19.0	13.9	78.4	-47.3	5.7	44.9

Source: Hanmi Pharmaceutical, Mirae Asset Daewoo Research estimates

### Chong Kun Dang's 2Q16 earnings results (July 29<sup>th</sup>)

On a non-consolidated basis, Chong Kun Dang posted revenue of W205.7bn (+46.9% YoY), operating profit of W10.6bn (+30.4% YoY), and net profit of W7.3bn (turning positive YoY)

\* Operating profit came in line with the consensus

**Table 11. Chong Kun Dang's 2Q16P results**

(Wbn, %, %p)

	2Q15	1Q16	2Q16P			Growth		Diff.	
			Preliminary	Mirae Asset Daewoo	Consensus	YoY	QoQ	Mirae Asset Daewoo	Consensus
Revenue	140.0	201.9	205.7	200.4	199.7	46.9	1.9	2.6	3.0
Operating profit	8.1	8.3	10.6	10.2	10.8	30.4	28.1	3.7	-1.9
OP margin	5.8	4.1	5.1	5.1	5.4	-0.6	1.1	0.1	-0.3
Pretax profit	-13.2	7.7	10.2	8.8	9.5	TTB	32.5	16.3	7.8
Net profit	-26.4	5.6	7.3	6.4	7.1	TTB	31.3	14.1	3.2

Source: Chong Kun Dang, Mirae Asset Daewoo Research estimates

## 2. Published reports

Yuhan, "Profit to improve in 2H16" (July 28<sup>th</sup>)

Dong-A ST, "Pipeline value to come into focus in 2H16" (July 28<sup>th</sup>)

Green Cross, "3Q16 operating profit to contract YoY" (July 28<sup>th</sup>)

Hanmi Pharmaceutical, "Pipeline value to come into focus in 2H16" (July 29<sup>th</sup>)

## 3. Major upcoming events and issues

Domestic firms to release 2Q results: i-SENS, Seegene

Overseas firms to release 2Q results: Pfizer (PFF, August 2<sup>nd</sup>), Dexcom (DXCM, August 2<sup>nd</sup>)

## 4. Company visits

### ViroMed

The company is planning a rights offering to enhance its negotiating power in out-licensing deals and finance phase 3 clinical trials (particularly for US clinical trials for VM202).

VM202 (diabetic peripheral neuropathy): The company is carrying out a phase 3 clinical trial in the US, slated to be completed in 2019. An approval application will likely be filed in 2020.

- VM202 (diabetic foot ulcer): The company plans to begin a phase 3 clinical trial in the US in 2H16, to be completed in 2019. An approval application will likely be filed in 2020.

Two scenarios for out-licensing deals: The company will likely make out-licensing deals either during the phase 3 trial (2016-2020) or after obtaining sales approval.

On the assumption that VM202 is licensed out during the phase 3 trial, the NPV of VM202 is estimated at W12.5tr-22.5tr (according to an outside consultant).

\* If the company's rights offering is successful, the US trial of VM202 should proceed full swing. Still, medium- to long-term visibility for VM202 out-licensing deals has been lowered somewhat.

### Dong-A ST

Dong-A ST reported its 2Q operating results and future business plans during a conference call held on July 27<sup>th</sup>.

Operating profit declined due to higher marketing spend and development expenses. By year-end, the firm plans to commence a phase 1 clinical trial of evogliptin (a therapy for non-alcoholic steatohepatitis) in the US. And an incrementally modified drug (IMD) for Viread will be released next year. As for DA-9801, a new herbal drug for diabetic neuropathy, the drug maker is preparing to publish clinical results, with the aim to win IND approval for a phase 3 trial in the US.

\* Any progress in DA-9801's US clinical trial will help boost the firm's pipeline value.

### Hanmi Pharmaceutical

Hanmi Pharmaceutical reported its 2Q earnings via a conference call on July 28<sup>th</sup>. The firm's royalty income of W21.3bn includes some of the upfront payments made by Sanofi last year in relation to an out-licensing deal. (Hanmi decided to book the payments over several periods.) Other profit includes proceeds from the sale of the firm's CrystalGenomics shares. The firm also recognized a tax refund due to R&D tax credits. It plans to cut costs by W15-20bn per year through cost control. Meanwhile, R&D expenses may increase in 2H compared to 1H.

In 2H, Hanmi Pharmaceutical's partnerships with multinational pharmaceutical companies and local distributors in emerging markets will likely take shape. The firm is preparing for a phase 1 trial of its human growth hormone for infants/children, and a phase 3 trial for adults.

\* R&D expenses are projected to increase in 2H. But earnings will likely be dictated by milestone payments related to last year's out-licensing deals.

## 5. Share performances of major domestic and global healthcare stocks

Table 12. Korean healthcare stocks

Sector	Company	Code	Market cap (Wbn)	Price (Won)	Share performance (%)					
					1W	1M	3M	6M	12M	YTD
Pharma	Hanmi Pharmaceutical	128940	6,375.9	611,000	-5.42	-14.78	2.35	-12.84	40.05	-16.07
	Yuhan	000100	3,412.7	306,000	0.33	1.32	4.79	-8.11	7.56	12.29
	Green Cross	006280	2,045.1	175,000	-3.85	-7.89	1.16	-18.22	-20.81	-4.37
	<b>Yungjin Pharm</b>	<b>003520</b>	<b>1,918.3</b>	<b>10,800</b>	<b>-10.37</b>	<b>-9.24</b>	<b>35.00</b>	<b>324.36</b>	<b>390.91</b>	<b>407.04</b>
	LG Life Sciences	068870	1,205.1	72,700	-3.96	0.00	5.82	4.76	7.39	19.97
	Bukwang Pharmaceutical	003000	1,139.1	30,500	-3.33	-11.08	7.21	-4.54	22.89	19.84
	Dawoong Pharmaceutical	069620	1,101.9	95,100	-3.45	-9.43	5.78	11.88	5.43	33.76
	JW Pharmaceutical	001060	1,083.3	57,800	1.76	-9.69	45.04	39.61	92.97	58.36
	Jeil Pharmaceutical	002620	1,061.8	71,500	4.08	-30.92	-14.37	86.20	174.47	85.96
Chon Kun Dang	185750	1,049.1	111,500	3.72	0.90	-0.45	-22.30	36.31	16.02	
Biosimilar	Celltrion	068270	12,137.0	104,100	-0.19	10.28	3.48	-7.14	40.71	23.20
	Medy-Tox	086900	2,453.2	433,700	-1.25	0.63	2.53	-15.51	-20.71	-15.43
	Binex	053030	658.6	21,100	-3.87	-0.47	7.11	13.75	-18.69	30.25
	Schnell Biopharmaceuticals	003060	532.1	6,580	5.79	11.34	17.50	45.09	29.02	105.30
Hospital	CHA Biotech	085660	810.4	16,050	0.31	3.55	13.43	5.94	4.90	13.03
Cell therapy	Kolon Life Science	102940	1,194.9	157,000	-3.15	0.64	-5.63	-25.84	0.02	-18.37
	Medipost	078160	660.3	84,300	0.00	-2.54	-1.06	-10.03	-19.33	-12.91
	GemVax & KAEL	082270	558.3	18,250	-5.68	-10.10	-11.41	-14.72	-46.09	-19.07
	Green Cross Cell	031390	422.8	36,150	-2.17	-4.99	-10.52	-26.75	-28.42	-20.64
	JW Shinyak	067290	421.7	10,800	-0.92	-4.00	11.11	22.45	25.73	25.87
	Pharmicell	005690	371.4	6,460	-0.92	1.25	14.95	39.52	-4.58	53.26
	IVD	Seegene	096530	952.3	36,300	0.41	8.68	3.57	-5.22	-37.95
InBody	041830	555.6	40,600	-4.47	0.25	-9.17	-24.81	-17.48	-30.00	
i-SENS	099190	526.8	38,400	-2.66	6.37	7.11	0.13	4.35	12.78	
Access Bio	950130	213.3	7,880	-2.11	0.25	2.47	-2.72	-13.69	9.14	
Gene analysis	Macrogen	038290	338.9	38,000	-0.52	-2.94	8.26	2.98	-10.80	9.51
	Theragen Etex	066700	201.0	7,220	-2.70	1.69	5.25	6.02	-25.95	6.96
New drug/ IMD	ViroMed	084990	1,821.2	127,300	2.00	-7.82	-9.72	-33.94	-30.51	-30.85
	Komipharm International	041960	1,647.7	30,250	1.17	-10.10	-23.80	-25.31	93.91	-21.83
	Hanall Biopharma	009420	1,151.9	22,050	0.23	5.00	38.68	63.94	96.88	67.68
	Genexine	095700	973.2	55,000	-1.26	-10.71	-0.72	8.59	-15.71	17.15
	CrystalGenomics	083790	728.1	29,400	1.73	5.00	86.08	62.43	97.32	107.04
	Legochem Biosciences	141080	408.5	43,850	-6.70	17.56	41.91	49.66	27.47	75.75
	Mezzion Pharma	140410	239.4	29,350	-2.65	-0.17	2.09	10.55	-18.47	6.53
	Medifron DBT	065650	178.6	6,970	3.72	-4.78	51.85	94.69	51.52	100.29
API	Amicogen	092040	532.4	58,400	3.36	-6.41	-8.03	-18.09	-40.83	-11.92
	Reyon Pharmaceutical	102460	461.8	35,800	5.45	12.05	18.54	-9.48	-0.42	-5.54
	Estechpharma	041910	189.8	16,600	-0.60	-22.79	-25.56	-42.16	-25.89	-29.36
	CKD Bio	063160	154.0	29,450	0.34	0.34	9.48	13.05	10.71	6.70
Functional	Naturalendo Tech	168330	358.4	18,400	1.10	16.83	-17.49	1.38	-31.98	-11.54
Dental	Osstem Implant	048260	1,088.6	76,200	-3.79	-3.05	6.42	-7.52	22.90	-5.93
	DIO	039840	867.8	57,200	0.18	20.29	4.95	59.33	183.17	90.67
	Value Added Technology	043150	580.8	39,100	-0.76	6.54	1.56	-18.54	28.83	-1.14
Solutions	Infinitt Healthcare	071200	216.2	8,860	-0.67	4.11	1.14	-8.38	-9.59	-5.54
	Ubcare	032620	170.8	4,240	-5.04	2.17	4.56	4.05	34.82	16.97
	BIT Computer	032850	145.8	8,770	-2.01	-1.02	13.90	2.93	25.64	12.87
Other equip.	Lutronic	085370	438.8	41,650	7.35	-0.83	-1.07	-24.95	-24.00	-7.85
New listing	Caregen	214370	1,474.8	137,700	-3.71	20.37	26.91	6.66	#N/A	35.00
	Hugel	145020	1,149.7	350,100	-0.26	12.03	15.05	42.61	#N/A	76.28
	ST pharm	237690	961.2	52,000	1.96	17.91	#N/A	#N/A	#N/A	#N/A
	Boditech Med	206640	614.1	29,100	0.69	3.01	2.11	-29.02	-56.70	-21.46
	PharmaReaserch Products	214450	526.3	55,600	3.35	6.92	-9.45	-32.28	-42.38	-23.84
	Green Cross LabCell	144510	402.1	38,100	-9.93	-24.55	#N/A	#N/A	#N/A	#N/A
	Qurient	115180	381.6	52,800	0.00	-1.49	28.00	#N/A	#N/A	#N/A
	Anterogen	065660	247.0	33,100	0.15	5.92	6.60	#N/A	#N/A	#N/A
	EyeGene	185490	235.6	23,500	-1.26	4.44	3.98	-14.86	#N/A	59.86
	Kangstem Biotech	217730	229.9	16,400	-1.50	-6.55	16.31	-18.00	#N/A	50.46
Holding	Hanmi Science	008930	8,393.8	144,000	-6.80	-7.40	5.88	-7.99	6.82	11.63
	Green Cross Holdings	005250	1,613.1	34,300	-2.83	-9.74	-2.56	-28.54	-14.04	-18.24
	Dong-A Socio Holdings	000640	794.1	164,000	-2.38	-7.87	-11.83	-23.36	-4.65	-3.24
	Daewoong	003090	725.6	62,400	-5.88	-1.73	5.94	-2.19	-27.19	10.25
	Chong Kun Dang Holdings	001630	467.4	93,300	-2.71	-4.31	5.42	-18.87	1.41	-15.95

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

Source: FactSet, Mirae Asset Daewoo Research

Table 13. Global healthcare stocks

Region	Sector	Company	Currency	Mkt. cap (US\$m)	Price (local)	P/E		P/B		Share performance (%)					
						FY1	FY2	FY1	FY2	1W	1M	3M	6M	12M	YTD
US	Pharma (brand)	Johnson & Johnson	USD	342,345	124.46	18.6	17.5	4.9	4.4	-0.5	4.3	11.0	19.2	24.8	21.2
		Pfizer	USD	222,398	36.67	15.0	14.0	3.6	3.5	-0.2	4.7	12.1	20.3	2.5	13.6
		Merck	USD	161,736	58.43	15.7	15.6	3.9	3.8	-0.7	2.4	6.5	15.3	-0.2	10.6
		BMS	USD	124,631	74.66	28.8	23.1	8.2	7.1	-1.3	2.3	3.4	20.1	15.1	8.5
		AbbVie	USD	108,721	64.72	13.6	11.5	24.0	14.8	1.4	4.7	6.1	17.9	-8.5	9.3
		Allergan	USD	101,089	255.56	18.0	14.6	1.1	1.1	2.6	10.8	18.0	-10.2	-24.4	-18.2
		Eli Lilly	USD	91,595	82.93	23.2	20.3	5.9	5.6	1.6	6.1	9.8	4.8	-2.5	-1.6
		Abbott	USD	65,304	44.45	20.2	18.0	3.0	2.8	3.0	15.2	14.3	17.4	-12.9	-1.0
	Baxter	USD	26,630	48.22	28.3	24.7	2.3	2.2	4.1	7.6	9.0	31.7	25.2	26.4	
	Pharma (generic)	Teva	USD	50,082	54.79	10.4	9.2	1.6	1.5	0.1	9.0	0.6	-10.9	-22.7	-16.5
		Mylan	USD	23,751	46.72	9.5	8.2	2.6	2.2	0.3	8.1	12.0	-11.3	-18.4	-13.6
	Biotech	Amgen	USD	128,668	171.28	15.1	13.7	4.2	3.8	3.4	14.1	8.2	12.1	-0.1	5.5
		Gilead	USD	108,130	81.24	6.9	6.9	6.1	4.4	-6.1	-1.3	-7.9	-2.1	-29.8	-19.7
		Celgene	USD	86,182	111.26	19.4	15.8	10.0	6.9	3.5	12.6	7.6	10.9	-15.8	-7.1
		Biogen	USD	63,333	289.03	14.6	13.9	5.3	4.3	0.4	21.0	5.1	5.8	-7.8	-5.7
		Alnylam	USD	5,843	68.29	-	-	6.3	6.2	4.3	22.8	1.9	-0.9	-47.5	-27.5
		Spectrum	USD	472	6.82	-	-	-	-	4.4	3.8	-3.8	37.5	0.1	13.1
	<b>Tobira</b>	<b>USD</b>	<b>80</b>	<b>4.27</b>	-	-	-	-	<b>-62.0</b>	<b>-65.8</b>	<b>-45.7</b>	<b>-40.5</b>	<b>-68.4</b>	<b>-57.5</b>	
	Equipment	Medtronic	USD	121,822	87.42	18.7	16.9	2.3	2.2	0.4	2.3	10.4	15.1	12.2	13.7
		Stryker	USD	43,030	114.96	20.0	18.0	4.4	4.1	-1.8	-3.2	5.5	15.9	12.7	23.7
Zimmer		USD	25,453	127.47	16.0	14.5	2.5	2.3	2.4	7.0	10.1	28.4	19.1	24.3	
Illumina		USD	24,497	166.42	47.4	40.9	10.0	8.2	10.4	21.0	23.3	5.4	-23.4	-13.3	
DexCom		USD	7,472	89.56	-	287.2	26.3	18.9	1.9	13.4	39.1	25.6	7.2	9.4	
Cepheid		USD	2,383	32.7	-	143.2	6.1	4.9	-0.4	10.7	14.6	11.0	-41.3	-10.5	
Luminex	USD	979	22.58	28.8	27.1	2.5	2.3	2.4	13.5	12.3	17.7	31.4	5.6		
Solutions	McKesson	USD	43,658	193.44	14.2	13.3	4.1	3.5	-1.6	5.5	15.3	20.2	-14.7	-1.9	
	Cerner	USD	21,042	62.24	26.5	23.1	4.7	4.0	0.5	8.3	10.9	7.3	-15.2	3.4	
Europe	Pharma (brand)	Novartis	CHF	190,097	80.3	17.5	16.1	2.5	2.5	-2.5	0.7	9.7	2.3	-19.9	-7.5
		Roche	CHF	172,870	245.5	16.6	15.4	8.1	6.7	-1.7	-3.4	1.2	-7.0	-12.2	-11.2
		Novo	DKK	140,629	377.9	24.6	22.1	17.8	15.0	0.8	6.4	4.1	-0.5	-5.5	-5.5
		GSK	GBP	108,670	16.995	18.3	17.2	20.1	20.5	2.4	9.0	16.5	18.1	23.6	23.8
		Sanofi	EUR	107,239	76.29	13.8	13.7	1.7	1.6	-0.4	2.7	5.8	-0.3	-22.2	-2.9
		Bayer	EUR	86,440	94.31	13.0	11.9	3.0	2.7	2.4	5.8	-6.4	-8.8	-30.1	-18.6
		AstraZeneca	GBP	83,429	50.27	16.6	16.8	4.8	5.0	9.0	14.8	28.0	12.0	19.9	8.9
		Shire	GBP	56,835	48.18	14.9	12.6	3.9	3.4	-2.0	7.7	13.1	23.2	-15.5	2.6
		Merck KGaA	EUR	47,606	98.79	16.9	15.9	3.1	2.9	1.4	9.3	20.4	23.4	4.7	10.3
		Grifols	EUR	14,860	19.5	21.9	19.4	3.7	3.2	-3.7	-0.9	2.7	1.8	1.4	-8.5
		UCB	EUR	14,634	69.97	23.1	18.7	2.3	2.2	-0.7	4.4	7.1	-11.0	4.7	-15.9
		Perrigo	ILS	12,940	345.8	11.0	9.9	1.2	1.2	-5.0	0.4	-7.5	-38.2	-52.6	-38.8
	Lundbeck	DKK	7,991	271.5	37.7	26.7	5.3	4.6	0.4	9.9	25.1	21.7	69.8	15.3	
	Ipsen	EUR	5,417	59.44	20.3	18.0	3.6	3.2	7.4	9.7	12.5	11.8	3.9	-2.6	
	Pharma (generic)	Teva	ILS	50,274	210.5	10.4	9.2	1.6	1.5	-1.0	8.6	0.2	-12.1	-22.4	-17.3
		Actelion	CHF	18,276	171.5	23.2	22.7	11.1	9.0	0.0	7.5	10.6	27.9	19.4	22.9
	Stada	EUR	3,332	48.225	17.4	15.6	2.9	2.6	4.0	5.4	30.2	51.7	38.6	29.2	
CMO	Lonza	CHF	9,838	182.5	23.1	20.0	4.0	3.6	0.4	12.9	14.3	16.8	30.0	11.9	
Equipment	Straumann	CHF	5,994	370.75	31.2	27.5	8.0	6.7	-2.0	-1.9	11.5	19.6	29.9	21.6	
	Biomerieux	EUR	5,399	123.5	27.6	23.8	3.0	2.7	-0.5	3.7	9.6	6.5	17.0	12.4	
Japan	Pharma (brand)	Takeda	JPY	34,293	4588	36.2	41.8	1.9	1.9	2.9	3.3	-12.8	-20.5	-24.6	-24.4
		Astellas	JPY	34,055	1721.5	18.8	17.1	2.7	2.5	4.0	6.6	15.0	4.3	-10.8	-0.6
		Eisai	JPY	16,476	6044	55.8	50.3	3.0	3.1	-3.7	1.9	-11.6	-15.9	-25.6	-25.0
		Daiichi	JPY	16,284	2461	24.7	26.0	1.3	1.3	-5.3	-2.3	-5.4	-0.8	-6.1	-2.0
	Pharma (generic)	Sawai	JPY	2,873	8170	16.3	15.0	2.2	2.0	2.5	3.9	15.4	-1.4	9.2	-1.7
		Nichi-Iko	JPY	1,270	2229	14.7	12.7	1.5	1.4	-1.5	5.3	-15.6	-18.6	-46.0	-23.3
Towa	JPY	908	5600	11.6	10.9	1.2	1.1	0.4	3.3	11.1	-15.8	-38.5	-25.9		
India	Pharma	Sun Pharma	INR	29,936	834.35	28.1	23.8	5.3	4.4	5.9	8.2	2.8	-4.4	0.5	1.8
		Lupin	INR	11,651	1733	26.1	21.9	5.8	4.7	2.0	13.1	7.8	1.3	5.8	-5.7
		<b>Dr. Reddy's</b>	<b>INR</b>	<b>7,325</b>	<b>2967.75</b>	<b>27.7</b>	<b>20.0</b>	<b>3.7</b>	<b>3.2</b>	<b>-17.7</b>	<b>-9.3</b>	<b>-4.1</b>	<b>-4.4</b>	<b>-20.1</b>	<b>-4.4</b>
	Cipla	INR	6,399	534.15	24.6	19.8	3.2	2.8	2.8	6.6	-0.5	-8.8	-21.2	-17.8	
Biotech	Bicon	INR	2,489	834.85	30.4	26.1	3.8	3.4	3.2	12.6	42.6	70.2	83.1	61.2	
Australia	Pharma	CSL	AUD	40,466	118	32.5	28.1	14.5	12.2	-0.8	8.9	12.2	13.5	20.8	12.1

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

Source: Factset, Mirae Asset Daewoo Research

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# APPENDIX 1

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