

## CHA Bio &amp; Diostech (085660)

Not rated

**Two lucrative themes: Stem-cell research and for-profit hospitals**

**Valuation:** The stock has jumped more than 60% in the past three months on stem-cell momentum and currently trades at a 2012F PER 45.7x, a 45% discount to the three-year average. We do not believe the stock is overvalued as: 1) global biotech peers traded at PER 108-1,442x in the early stages and 2) most stem-cell-related companies in Korea and abroad are mired in losses. The company looks attractive given its stable earnings from the hospital and optical businesses and its cutting-edge stem-cell technologies, a future growth driver. In addition, Hwang Young-key, former chairman of KB Financial Group, has taken the managerial reins, which elevates the image of CHA Bio & Diostech.

**KFDA approval for clinical trials of RPE (retinal pigment epithelium) embryonic stem-cell treatment:** CHA Bio & Diostech has developed a diverse stem-cell pipeline thanks to its ties with Cha Hospital, the world's leading stem-cell developer. The commercialization of embryonic stem-cell treatment should take several months longer than somatic stem-cell treatment to reach commercialization, but progress in the clinical stage can generate share momentum as it is an untapped market. The company's US partner, Advanced Cell Technology (ACT), secured the world's second clinical test approval from the US FDA in 2010 for Stargardt, and CHA Bio & Diostech won KFDA approval in May 2011. Upon successful completion of phase 1 & 2 clinical trials, Stargardt can win conditional approval and go to market in 2012. The stock should see new upward catalysts in 2H11 as a dry age-related macular degeneration treatment enters the clinical trial phase.

**Earnings turnaround at optical business:** The optical business accounts for 45% of Samsung Electronics' handset camera demand. The business made an operating loss in 2010 as camera module prices dropped on falling FX rates but should turn around in 2011 due to the following. 1) There would be a bigger top line in 2011 as Samsung's Galaxy adopted a five-megapixel, high-resolution camera as a standard feature. 2) The relocation of voice-coil modules (VCM) production to China would ease production shortages and bolster the bottom line.

**Bio earnings over short to mid-term:** It should take time for stem-cell treatments to generate sales. As such, the company is diversifying its portfolio to secure a cash cow business and opened an anti-aging healthcare center, Chaum, targeting the upper class. We are also monitoring Montelukast, an upgraded generic of Merck's asthma drug scheduled for release in 4Q11. The original drug market is worth W55bn domestically and W4trn globally. The new drug has strong top-line potential as the company is pending FDA approval for clinical trials to penetrate the US market and is in talks with global companies to forge partnerships.

September 07, 2011 / W11,650 / Mkt cap: USD692.1mn, KRW743bn

Yr to Dec	Sales (W bn)	OP (W bn)	EBT (W bn)	NP (W bn)	EPS (won)	% chg. (YoY)	EBITDA (W bn)	P/E (x)	EV/EBITDA (x)	PBR (x)	ROE (%)
2009A	359	10	7	5	134	(57.5)	21	58.3	19.3	2.7	5.2
2010A	382	15	14	5	106	(20.9)	31	82.5	14.7	2.5	3.6
2011F	475	27	24	10	177	67.3	49	65.8	14.8	3.8	6.3
2012F	519	38	35	15	255	44.0	62	45.7	11.7	3.5	8.5
2013F	551	45	42	18	303	18.5	71	38.4	10.4	3.3	9.2

**Cha Hospital and subsidiary LA Hollywood Presbyterian Medical Center, beneficiaries of the legalization of for-profit hospitals:** There are many legal hurdles for the privatization of non-profit hospitals. But if the Korean medical market is opened to commercial hospitals and medical tourism, CHA Bio & Diostech should look even more attractive. In particular, commercial hospitals listed in Singapore and Thailand yield big operating margins of ~20% and trade at PER 30x or more, bolstering hopes for CHA Bio & Diostech.

**Key R&D pipeline**

Product	Disease/business partner	Clinical trial phase	Approval/product release	Market value	Others
RPE	Stargardt/ US ACT	US FDA approval granted (2010.11)	1.5 years (2012)		Rare disease Conditional approval for commercial release if clinical phase II is complete World's second clinical approval
		KFDA approval granted (2011.5)			Korea's first and world's fourth approval for clinical trials
	Dry age-related macular degeneration / US ACT	US FDA approval granted (2011.1)	2 years (2013)	W10trn	Third in the world to obtain approval for clinical trial absence of treatment in Dry AMD
		Scheduled to file application (2011.9)		W125bn	Possibility of becoming the fifth in the world to obtain approval for clinical trial
Hyalograft 3D (somatic stem cell)	Diabetic foot Ulcer treatment	Trials completed (2011.11)	Conditional approval (2007.7)		Marketable during clinical trials
Upgraded version	Asthma treatment	Scheduled to file application in US (2H2011)	Approved (2012.8)	W4trn	In talks with multi-national pharmaceuticals for business partnerships
		Pending approval from KFDA (2011.8)		W55bn	Product release in 4Q11

Source: Company data, Korea Investment & Securities

**Scenario analysis of company value**

(W bn, won, %)

Valuation method		Value
<b>Total operating value</b>		<b>734.8</b>
Optical (parent)	10.3x 2011F earnings (10% discounted to KIS IT Universe average)	38.3
Bio (parent)	15.4x 2011F sales (30% discounted to major Korean stem cell/biosimilar players) (Scenario2)	437.3
Hospital (subsidiary)	30x 2011F earnings (Asia's major listed * hospital MSO average)	185.4
Montelukast pipeline value	Odds of US market success (60%)	323.0
Net debt	2011F	4.0
FV		980.1
Free-floating shares (mn shares)		58.7
FV per share		16,704.3

	Valuation method	Value of bio business	Cha Bio's value/share	Share price U/D
Scenario 1	22.1x 2011F sales (major domestic peer average)	624.8	19,898.7	70.8
Scenario 2 (base case)	15.4x 2011F sales (30% discounted to major domestic peer average)	437.3	16,704.3	43.4
Scenario 3	13.2x 2011F sales (50% discounted major domestic peer average)	374.9	15,639.5	34.2
Scenario 3	73.0x 2012F earnings (major global biotech companies' +1 average standard deviation)	228.6	14,982.5	28.6
Scenario 4	65.3x 2012F earnings (major global biotech companies' mid-cycle average)	121.2	13,151.3	12.9

Note: Hospital management services organization (MSO)  
Source: Korea Investment & Securities

**Pipeline value if asthma treatment succeeds in the US (odds of success 60%)**

(W bn, %)

	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F	2021F	2022F	2023F	2024F
<b>Montelukast estimated sales</b>														
Total market	3,654	3,947	4,342	4,559	4,787	5,026	5,227	5,410	5,545	5,656	5,741	5,798	5,798	5,798
Singulair	3,654	2,926	1,208	889	756	804	836	866	887	905	919	580	580	580
Montelukast		197	399	502	1,197	1,508	1,568	1,623	1,664	1,697	1,722	870	870	870
Other generics		823	2,699	2,758	2,834	2,714	2,823	2,921	2,994	3,054	3,100	4,349	4,349	4,349
Loyalty income		18	36	45	108	136	141	146	150	153	155	78	78	78
Milestone income														
PV of total income		12	23	26	58	67	64	61	58	54	50	23	21	20
<b>Total pipeline value after tax</b>	<b>538</b>													
(odd of success at 60%)	323													
<b>Key assumptions</b>														
Total market growth (%)		7.0	10.0	5.0	5.0	5.0	4.0	3.5	2.5	2.0	1.5	1.0	0.0	0.0
Montelukast M/S (%)		5.0	10.0	20.0	25.0	30.0	30.0	30.0	30.0	30.0	30.0	15.0	15.0	15.0
Royalty (% of sales)		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Corporate taxes (%)		23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0

Source: Company data, Thomson, Korea Investment &amp; Securities

**Risks:** The stock has overhang risks from BWs and stock options. Dilutive potential common shares represent 7.7% of the current free-float(the shares exercisable in 2011 is 6%). Other risks involve Chaum, which may post operating losses. But we do not consider Chaum a long-term concern as it is still in the early stages and can generate earnings through better marketing and joint services with hospitals.

**Dilutive potential common shares**

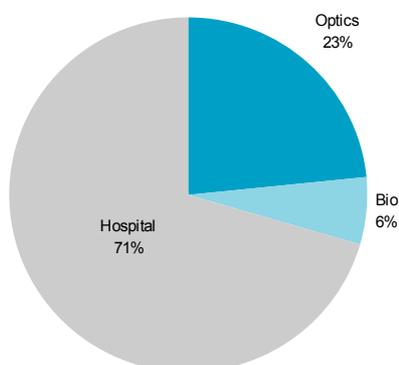
(KRW, shares, %)

	Exercise date	Expiration	Exercise price	Shares to be issued	Amount	% of free-float shares	Details
BW	May 18, 2011	Apr 18, 2013	9,383	3,197,271	30	5.4	Held by W Savings, Kiwoom.com, KT Capital
Stock options	Mar 27, 2011	Mar 26, 2016	9,227	1,006,000	9	1.7	300,000 shares in 2011
	Mar 24, 2011	Mar 23, 2017	11,827	326,000	4	0.6	
Dilutive potential common shares				4,529,271	43	7.7	
Free-float shares				58,674,381			

Source: Dart, Company data, Korea Investment &amp; Securities

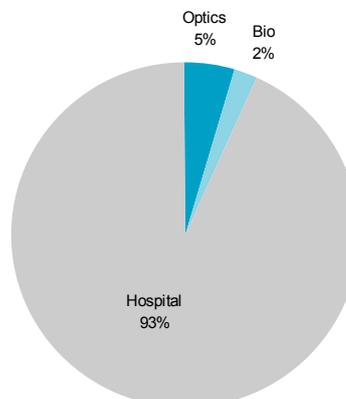
## Company overview

### Sales breakdown (2011)



Source: Company data, Korea Investment & Securities

### Operating profit breakdown (2011)



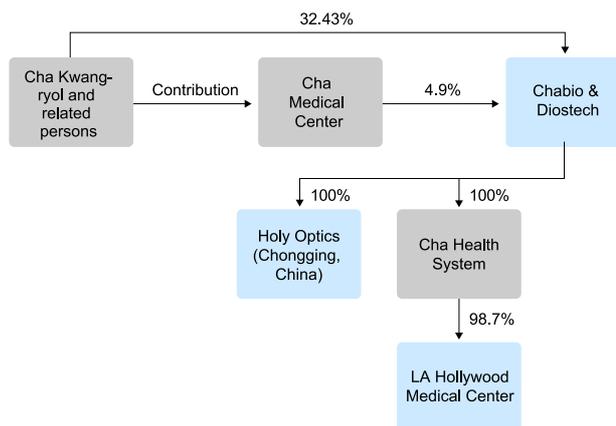
Source: Company data, Korea Investment & Securities

### Company history

Apr 1960	Opening of Cha Obstetrics Clinic
Aug 1986	First private hospital to deliver test-tube baby
Sep 2000	Establishment of Chabio
Mar 2002	Cha Medical Center registers embryonic cell lines with US NIH
Mar 2004	Establishment of LA Hollywood Medical Ctr
Feb 2009	Merger between Chabio and Diostech

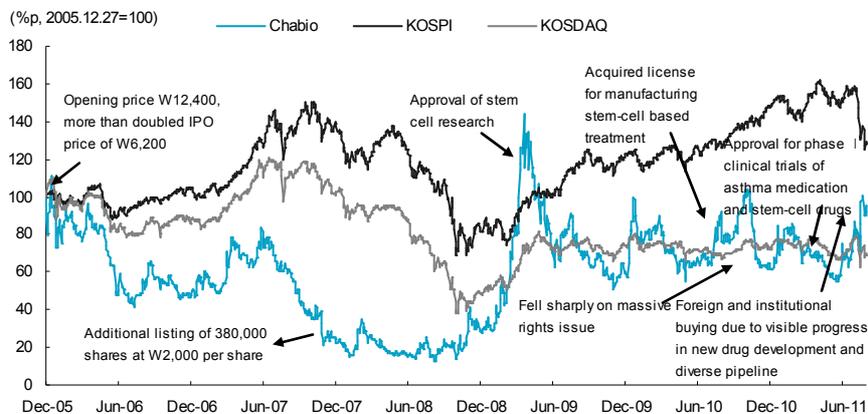
Source: Company data, Korea Investment & Securities

### Ownership structure



Source: Company data, Korea Investment & Securities

### Share performance and major events



Source: Company data, Korea Investment & Securities

**Balance sheet**

FY-ending Dec. (W bn)	2009A	2010A	2011F	2012F	2013F
Current assets	106	169	210	229	244
Cash & cash equivalent	17	56	69	76	81
Accounts & other receivables	52	73	91	99	105
Inventory	14	13	16	18	19
Non-current assets	122	165	192	211	229
Investment assets	10	7	9	10	10
Tangible assets	94	106	119	131	144
Intangible assets	2	30	37	40	43
Total assets	228	334	402	441	473
Current liabilities	45	100	146	162	169
Accounts & other payables	21	41	51	56	59
ST debt & bond	2	34	36	38	41
Current portion of LT debt	3	10	17	24	31
Non-current liabilities	58	76	85	89	92
Debentures	7	8	9	10	10
LT debt & financial liabilities	29	28	27	25	24
Total liabilities	103	176	231	251	261
Controlling interest	125	158	169	184	201
Capital stock	26	27	27	27	27
Capital surplus	114	139	139	139	139
Capital adjustments	(20)	(19)	(19)	(19)	(19)
Retained earnings	5	11	21	36	54
Minority interest	1	0	3	6	11
Shareholders' equity	126	158	171	190	212

**Cash flow**

FY-ending Dec. (W bn)	2009A	2010A	2011F	2012F	2013F
C/F from operating	24	42	52	41	40
Net profit	5	6	13	19	22
Depreciation	10	12	13	15	16
Amortization	1	4	9	10	11
Net incr. in W/C	(0)	9	11	(6)	(12)
Others	8	11	6	3	3
C/F from investing	(20)	(40)	(47)	(44)	(44)
CAPEX	(18)	(25)	(29)	(30)	(31)
Decr. in fixed assets	1	3	3	3	3
Incr. in investment	10	2	(3)	(3)	(3)
Net incr. in intangible assets	(6)	(9)	(16)	(13)	(13)
Others	(7)	(11)	(2)	(1)	0
C/F from financing	(19)	37	9	9	9
Incr. in equity	1	1	0	0	0
Incr. in debts	(20)	36	9	9	9
Dividends	0	0	0	0	0
Others	0	0	0	0	0
C/F from others	7	0	0	0	0
Increase in cash	(9)	39	14	6	5

Note: Based on K-IFRS (consolidated)

**Income statement**

FY-ending Dec. (W bn)	2009A	2010A	2011F	2012F	2013F
Sales	359	382	475	519	551
Gross profit	31	43	53	58	62
SG&A expense	21	28	27	20	17
Other operating gains	0	0	0	0	0
Operating profit	10	15	27	38	45
Financial income	2	2	3	3	3
Interest income	1	1	1	2	2
Financial expense	4	5	6	7	8
Interest expense	4	4	6	6	7
Other non-operating profit	0	2	3	3	3
Gains (Losses) in associates, subsidiaries and JV	(1)	(2)	(2)	(2)	(2)
Earnings before tax	7	14	24	35	42
Income taxes	2	7	11	17	20
Net profit	5	6	13	19	22
Net profit of controlling interest	5	5	10	15	18
Other comprehensive profit	0	0	0	0	0
Total comprehensive profit	5	6	13	19	22
Total comprehensive profit of controlling interest	5	5	10	15	18
EBITDA	21	31	49	62	71

**Key financial data**

FY-ending Dec.	2009A	2010A	2011F	2012F	2013F
per share data (KRW)					
EPS	134	106	177	255	303
BPS	2,918	3,435	3,055	3,290	3,568
DPS	0	0	0	0	0
Growth (%)					
Sales growth	404.6	6.3	24.3	9.3	6.3
OP growth	42.6	59.1	71.8	43.2	18.3
NP growth	20.2	(4.7)	101.4	45.7	18.5
EPS growth	(57.5)	(20.9)	67.3	44.0	18.5
EBITDA growth	35.4	51.5	57.2	27.2	13.8
Profitability (%)					
OP margin	2.7	4.0	5.6	7.3	8.2
NP margin	1.5	1.3	2.2	2.9	3.2
EBITDA margin	5.7	8.2	10.3	12.0	12.9
ROA	3.3	2.3	3.5	4.5	4.9
ROE	5.2	3.6	6.3	8.5	9.2
Dividend yield	0.0	0.0	0.0	0.0	0.0
Stability					
Net debt (W bn)	12	12	4	5	8
Debt/equity ratio (%)	33.5	50.8	52.1	51.5	50.2
Valuation (X)					
PER	58.3	82.5	65.8	45.7	38.4
PBR	2.7	2.5	3.8	3.5	3.3
PSR	1.0	1.2	1.6	1.4	1.3
EV/EBITDA	19.3	14.7	14.8	11.7	10.4

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