

Royalty Guidelines and Actual Royalties in Exporting Pharmaceutical Patents from South Korea

November 3, 2005

HeeSeob Nam

1. Royalty Guideline of Government Owned Patents in South Korea

Royalty guideline is set forth in Enforcement Ordinance for Disposal, Management and Compensation of Public Officials' Invention ("Ordinance") enacted July 1, 1999. The same royalty guideline was prescribed in Enforcement Ordinance for Disposal and Management of Government Owned Patent that was enacted April 1976 and abolished July 1, 1999.

Under Article 11, Paragraph 2 of the Ordinance, when an exclusive license is registered or a non-exclusive license is allowed to any third party for a government owned patent, the estimated royalty is set by the following formula.

$$\text{Estimated Royalty} = \text{"Estimated Total Sales Volume of a Product Using the Government Owned Patent"} * \text{"Unit Sales Price of the Product"} * \text{"Utilization Ratio"} * \text{"Basic Rate"}$$

Paragraph 3 of Article 11 of the Ordinance defines that:

"Estimated Total Sales Volume" means summation of estimated sales volume per year for licensed period;

"Unit Sales Price" means ex-factory price per year for licensed period;

"Utilization Ratio" means the ratio of the government owned patent utilized in production of unit licensed product; and

"Basic Rate" is 3 percent (The Basic Rate may be adjusted in a range from 2 percent to 4 percent in consideration of the utility value and industrial applicability of the patent owned by government).

Paragraph 5: When the Estimated Total Sales Volume is not calculable, the estimated

royalty is calculated by unit product by: Estimated Royalty per Unit Product = “Unit Sales Price” * “Utilization Ratio” * “Basic Rate”.

The royalty guideline in the Ordinance has been applied for about 30 years to 202 patents as shown below.

2. Example of Royalty in Licensing of Government Owned Patents

A. Industrial Properties Owned by Government

Year	Newly Registered					Expired	Cumulative Total				
	Patent	Utility Model	Design	Foreign Patent	Total		Patent	Utility Model	Design	Foreign Patent	Total
1993	5	1	4	-	10	-	19	9	4	-	32
1994	8	1	-	-	9	-	27	10	4	-	41
1995	2	3	-	-	5	-	29	13	4	-	46
1996	14	2	1	-	17	-	43	15	5	-	63
1997	29	7	1	2	39	-	72	22	6	2	102
1998	99	16	-	2	117	-	171	38	6	4	219
1999	91	12	14	2	119	4	262	46	20	6	334
2000	113	46	24	3	186	-	375	92	44	9	520
2001	102	36	18	4	160	3	477	125	62	13	677
2002	124	30	26	7	187	2	601	153	88	20	862
2003	120	16	7	2	145	6	719	169	91	22	1,001

(Source: Korean Intellectual Property Office, *Annual Report 2004 on Intellectual Property Rights*, Table <IV-5-3>¹)

B. Licensed Industrial Properties

Year	License Allowed			Royalty Revenue (Korean Won)
	Non-Free	Free	Total	
1992	1		1	2,510,390
1993	1		1	25,153,160
1994	4		4	9,046,480
1995	4		4	8,129,220
1996	5		5	1,224,138,170
1997	5		5	5,345,180
1998	15	3	18	87,806,690
1999	21	3	24	92,209,090
2000	29	7	36	67,319,550

¹ Korean Version at http://www.kipo.go.kr/kpo/route/FileDown.jsp?path=/upload/ip_info/&fn1=whitepaper2005&fn2=2005_지식재산백서.hwp

2001	62	-	62	198,335,690
2002	55	-	55	188,884,880
2003	52	-	52	218,000,000
Total	202	13	215	1,908,878,500

(Source: Korean Intellectual Property Office, *Annual Report 2004 on Intellectual Property Rights*, , Table <IV-5-4>)

3. Actual Royalties in Exporting of Pharmaceutical Patents from South Korea

Following data is retrieved from: Korea Pharmaceutical Manufactures Association (www.kpma.or.kr); The Korea Health Industry Development Institute (KHIDI, www.khidi.or.kr); and *White Paper 2004 – Pharmaceutical Industry*; and Korea Drug Research Association (August 2004 Report, http://www.kdra.or.kr/md/r_result/result_t.htm).

Year	Exporter	Licensee	Technology (Patent)	Royalty and Condition
July 1989	Hanmi Pharma Co., Ltd.	Roche (Swiss)	Process Patent on Antibiotics “Ceftriaxone”	USD 600 Million For Six Years
January 1991	LG Chemical	Glaxo Wellcome (GB)	4 th Generaion Cephalosporin Antibiotics (Product Patent)	- Down Payment: USD 1,500M - Running Royalty: 7% of Net Sale
June 1993	Korea Research Institute of Chemical Technology	SKB (GB)	Quinolone Antibiotics (Product patent)	- Down Payment: Working: USD 100 M Clinical Trial: USD 500 M Approval: USD 1,500 M - Running Royalty: 3-5% of Net Sale
March 1994	YuHan Chemical	Grelan (Japan)	Malotilate liver drug YH-439 (Product Patent)	- Down Payment: USD 200 M (Additional Payment Depending on the Result of Clinical Trial) - Running Royalty: 5% of Net Sale
July 1994	Korea Research Institute of Chemical Technology	Yamanouchi (Japan)	Phenylacetamide non-narcotic analgesic (Product Patent)	- Down Payment: JPY 33 M - Running Royalty: 4.5% of Net Sale
September 1995	Hanmi Pharma	Calena (Czech)	Cyclosporine A (immunosuppressant) (Process Patent)	- 6% of Net Sale
April 1997	Hanmi Pharma	Novartis AG (Swiss)	Microemulsion Technology	- Domestic: Down Payment USD11 M Running Royalty: 15% of net sales for 20 years - Overseas: Down Payment: USD 3 M for 1998-2000 US\$6m pa currently US\$4.8m pa
May 1997	LG Chemical	SmithKline Beecham (SB)	Quinolone Antibiotic	- Down Payment: USD 3,750 million - Running Royalty: USD 3 million every year for 2 years after commercialization

July 1997	LG Chemical	Warner-Lambert	Anticoagulant (LB30057)	- Down Payment: USD 40 million - Running Royalty: 10% of Net Sale for 2003 to 2015
February 1998	BUKWANG PHARMACEUTICAL INDUSTRIAL CO.,LTD	Triangle Pharma (U.S.)	Anti-hepatitis B (L-FMAU)	- Down Payment: USD 11 million - Running Royalty : 15% of Net Sale
1998. 5	DAESANG CORPORATION	Germany BASF	Lysine bacteria & manufacturing Technology	- Down Payment : USD 600 million
1998.November	CJ Corp.	USA VaccGen Corp.	New vaccine of Japanese encephalitis	- Down Payment : USD 1.5 million - Running Royalty : 8% of Net Sale under patent right
1998.December	LG CHEM LTD	SB Corp.	Antiviral	- Running Royalty : approximately USD 40 million
1998.December	YUHAN CORPORATION	Warrick Pharma	Amethopterin (Product patent)	- Down Payment : USD 1 million - 10-20% of Net Sale
July 1999	SK CORPORATION	Johnson & Johnson	Epilepsy drug “YKP509”	- Down Payment : USD 39 million
November 1999	Dong-A Pharmaceutical Co., Ltd	Stiffel(U.S.)	Non-narcotic analgesic “KR-2508”	- Down Payment : USD 1.5 million - Running Royalty : 5% of Net Sale
December 1999	ILYANG PHARMACEUTICAL CO.,LTD	Consortium consisting of 6 Pharmaceutical companies including Xcan Pharma	Gastric ulcer drug “TY81149”	- Down Payment : USD 30 million - Running Royalty: 7-10% of Net Sale
January 2000	DONGA PHARMACEUTICAL CO.,LTD	Janssen Korea Ltd.	Oral athlete’s foot drug	- Down Payment : USD 6 million - Running Royalty: 3-5% of Net Sale
March 2000	CHONGKUNDANG CORP	Hexal (Germany)	Gastritis, gastric ulcer drug omeprazole ‘OMP’ manufacturing Technology	- Down Payment : USD 500 thousand - Running Royalty :3.5% of Net Sale in Germany for 3 years
August 2000	SamYang Corp.	BMS (USA)	Large intestine drug	- Down Payment : approximately USD 6 million - Running Royalty : 3% of Net Sale
October 2000	YuHan Corp.	SKB (GB)	Gastric ulcer drug YH1885	- Down Payment : USD 100 million - Running Royalty: 10% of New Sale (Until 2015)
November 2000	SK Corp.	Johnson & Johnson (U.S.)	Melancholia drug YKP10A (Product Patent)	- Down Payment : USD 73 million - Running Royalty: 10% of Net Sale
November 2000	ChongKundDang Corp.	ALZA (U.S.)	Camptothecin anticancer drug (CDK-602)	- Down Payment : USD 3 million - Technology Royalty: USD 30 million - Running Royalty: 5% of Net Sale after commercialization
March 2001	ChoongWae Pharma Corp.	Jugai Pharma (Japan)	Hormone dependent breast cancer drug, irritable bowel syndrome drug	- Transfer Price: USD 7 million
2001.Oct	LGCI	BP(BioPartners)	Human Growth Hormone	- USD 6 million

ber.			(Microsomnia drug)	
December 2001.	ILYANG PHARMACEUTICAL CO.,LTD	Ripzone ² Pharma(China)	Gastric ulcer drug “TY-81149”	-Running Royalty: Until 2014 after commercialization - the first 3 years : 10% of Net Sale - 3~5 years : 8 % of Net Sale - the remainder period : 6% of Net Sale
November 2002	LG Life Sciences, LTD.	GeneSoft (U.S.)	Quinoline antibiotics “Factive”	-Down Payment : USD 40.5 million - Running Royalty: A certain rate of Net Sale - An exclusive right for supplying raw materials and product - Acquisition of Stock of GeneSoft
February 2004	AmorePacific Corp.	Schwartz Pharma (Germany)	Vanilloid receptor (VR) antagonist)	- Down Payment : Euro 3.25 million - Technical Royalty: Euro 117.5 million - Additional Running Royalty when New Drug is Saled
April 2004 2004	LG Life Sciences, Ltd.	Anadys (U.S.); Holling (Taiwan); Ache (Brazil); Aspen (South Africa); Tabuk (Saudi Arabia); Vero Pharm (Russia); Abdi Ibrahim (Turkey)	Quinolone Antibiotic	- Running Royalty: Certain % of Net Sale
November 2004	Bukwang PHARMACEUTICAL IND CO.,LTD	Eisai (Japan)	Anti-Hepatitis B “Clevudine”	- Down Payment: USD 5 million - Technical Royalty: 40 million - Running Royalty: About 14% of Net Sale

² Transliteration from Korean Characters