



Seminário sobre o Complexo Econômico-Industrial da Saúde

19-21 Maio 2008

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Iniciativas do setor privado na produção de biofármacos no Brasil

- **José Ricardo**
Diretor Geral de Operações – Aché
- **Ogari Pacheco**
Presidente – Cristália
- **Wolney Alonso**
Diretor de Novos Negócios – Eurofarma

Biominas - Empresas Relacionadas

Investidas



Incubadas



Graduadas



Associadas



Fundação Biominas: desde 1990, dedicada a criar e desenvolver empresas de biotecnologia no Brasil



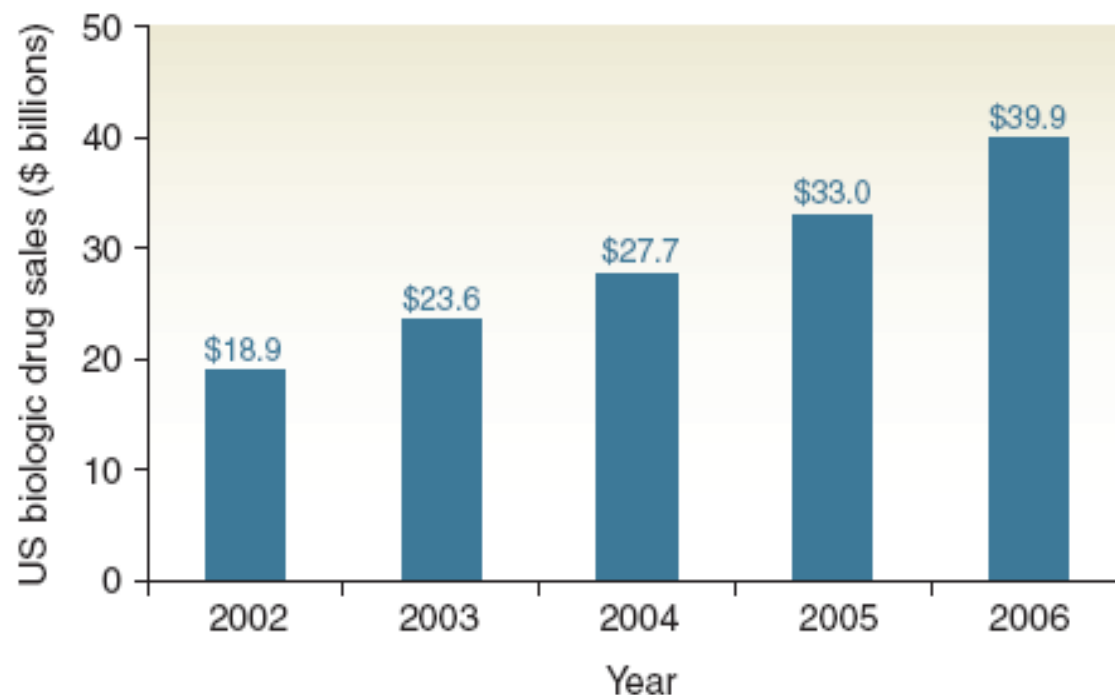
Programa de Transferência
de Tecnologia



2007 / 2008



Biopharmaceutical market in USA 2002-2006



Biopharmaceutical annual
growth rate: 20%

Pharmaceutical industry
annual growth rate: 6-8%

Figure 1 Total sales in US market for biologic drugs (2002–2006).

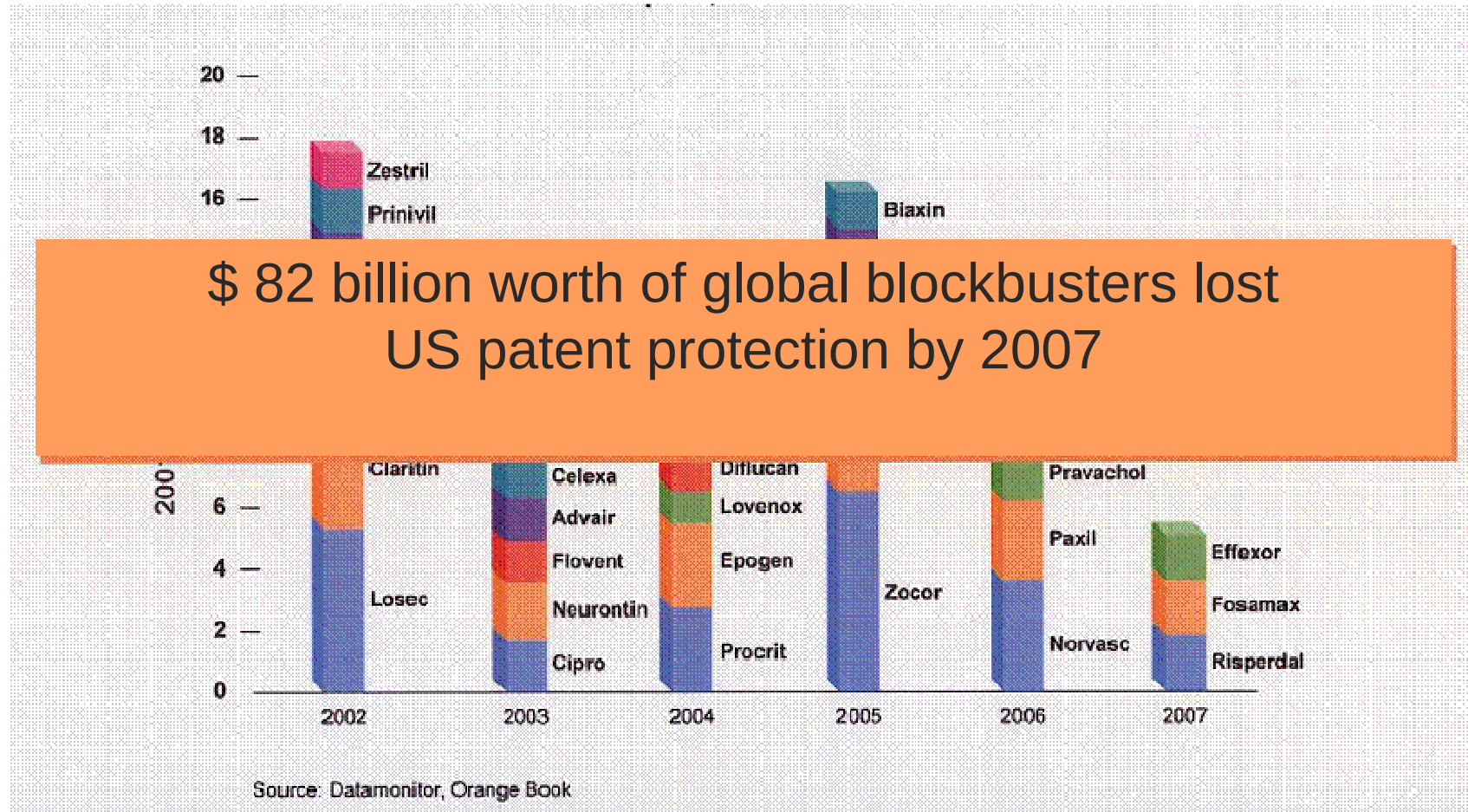
Biotech's Big Drugs

Top 20 Biotech Drugs Ranked by 2004 Revenue*

Drug	Company	Disease	2004 Sales (\$M)	2003 Sales (\$M)	% Change
Epogen	Amgen	Anemia	\$2,601	\$2,435	7%
Aranesp	Amgen	Anemia	\$2,473	\$1,544	60%
Rituxan	Genentech and Biogen-IDEC	Non-Hodgkin Lymphoma	\$2,326	\$1,982	17%
Enbrel	Amgen	Arthritis	\$1,900	\$1,300	46%
Neulasta	Amgen	Neutropenia	\$1,740	\$1,256	39%
Avonex	Biogen-IDEC	Multiple sclerosis	\$1,417	\$1,168	21%
Neupogen	Amgen	Neutropenia	\$1,175	\$1,267	-7%
Rebif	Serono	Multiple Sclerosis	\$1,091	\$819	33%
Synagis	MedImmune	Infectious disease	\$942	\$849	11%
Cerezyme	Genzyme	Gaucher disease	\$839	\$739	14%
Viread	Gilead	HIV	\$783	\$567	38%
Gonal-f	Serono	Infertility	\$573	\$526	9%
Avastin	Genentech	Metastatic Colorectal Cancer	\$555	NA	NA
Herceptin	Genentech	Breast cancer	\$483	\$425	14%
Visudyne	QLT	Wet AMD	\$448	\$356	26%
Provigil	Cephalon	Excessive Daytime Sleepiness	\$439	\$290	51%
Renagel	Genzyme	End-stage Renal Disease	\$364	\$282	29%
Actiq	Cephalon	Breakthrough Cancer Pain	\$344	\$237	45%
Erbitux	ImClone	Metastatic Colorectal Cancer	\$261	NA	NA
AmBisome	Gilead	Infectious disease	\$212	\$198	7%

* Biotechnology revenues only. Pharma partner revenues excluded.

Blockbuster US Patent Expires 2002-2007



Biogeneric Status of Biotech Drugs

BRAND	ACTIVE SUBSTANCES	MARKETER	YEAR OF APPROVAL	2005 SALES (\$M)	GENERICS UNDER DEVELOPMENT
Neupogen	Filgrastim	Amgen	1991	\$3,500	Yes
Procrit	Epoetin alpha	Ortho Biotech	1990	\$3,000	Yes
Epogen	Epoetin alpha	Amgen	1989	\$3,000	Yes
Enbrel	Etanercept	Immunex	1998	\$2,700	No
Remicade	TNF alpha	JNJ (Centocor)	1998	\$2,200	Yes
Rituxan	Anti-CD20 Mab	Genentech	1997	\$1,500	No
Avonex	Interferon beta-1a	Biogen	1996	\$1,500	Yes
Intron A	Interferon alpha-2b	Schering Plough	1995	\$900	Yes
Betaferon	Interferon beta-1a	Schering AG	1995	\$682	Yes
Humulin	75% human insulin isophane suspension, 25% human rec. insulin	Eli Lilly	1992	\$630	Yes

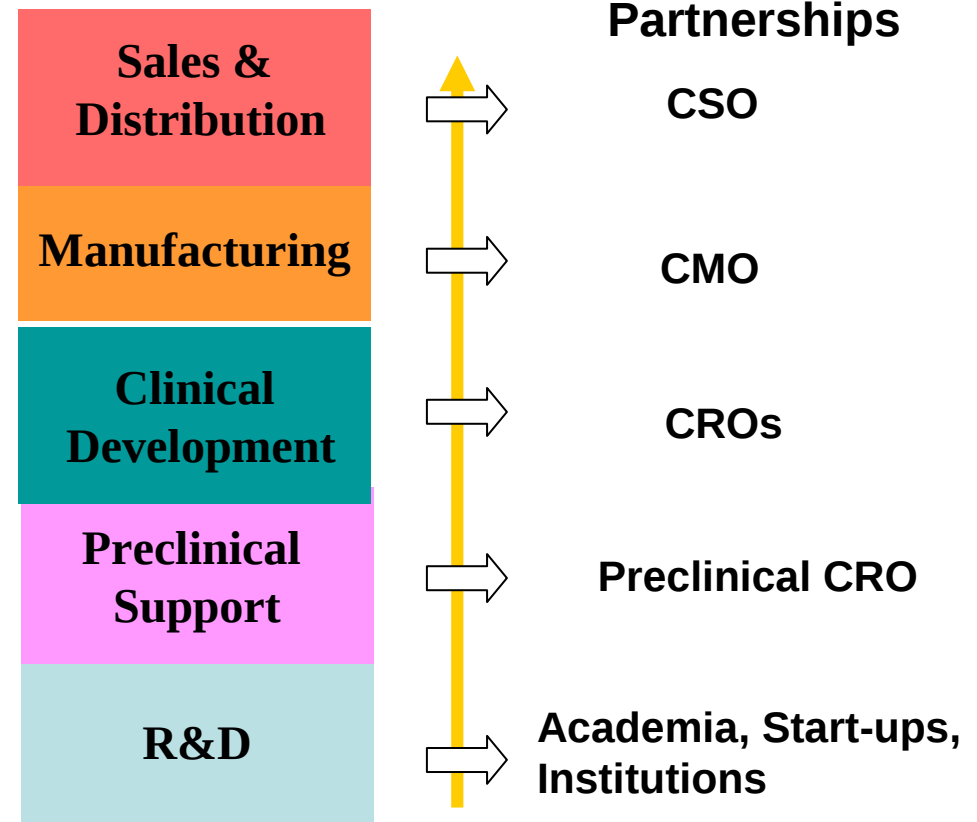
Source: IMS Healthcare, Burrill & Company

Changing Business Models

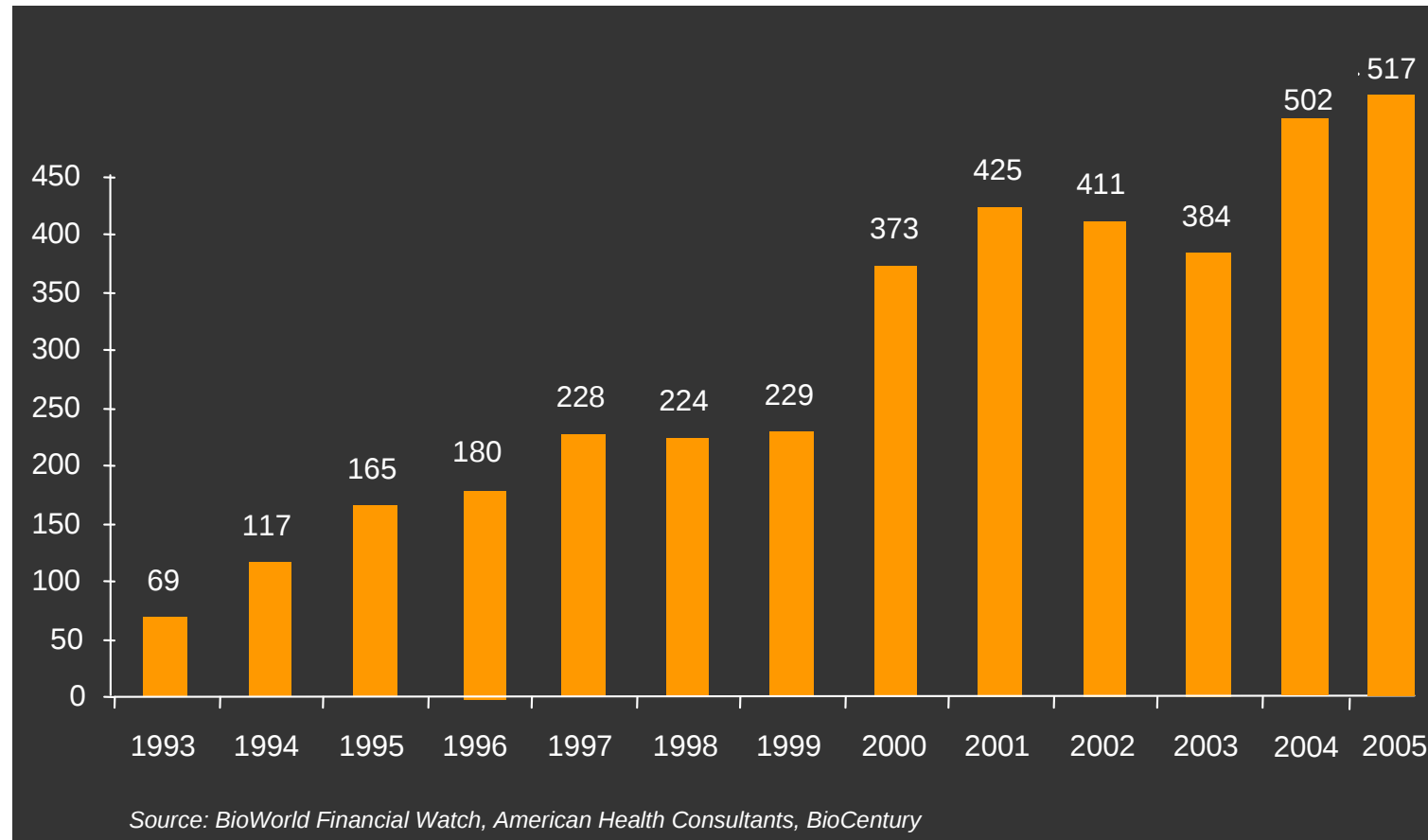
FIPCO (Fully Integrated Pharma Co.)



VIPCO (Virtually Integrated Pharma Co.)



Number of New Biotech — Big Pharma Collaborations 1993-2005



Selected Pharma-Biotech Partnering in 2006

GSK / Genmab	\$2,100M
GSK / Chemocentryx	\$1,500M
GSK / Epix	\$1,200M
AtheroGenics /AstraZeneca	\$1,000M
FibroGen / Astellas	\$815M*
Wyeth/Trubion	\$800M
Alnylam / Novartis	\$700M
Roche/Actelion	\$630M
Nastech/P&G	\$577M
Affymax / Takeda	\$535M
Idenix/Novartis	\$525M
SGX/Novartis	\$515M
Progenics/Wyeth	\$417M
Infinity/Novartis	\$400M
Nuvelo/Bayer	\$385M
Kai/Daiichi Sankyo	\$340M
NicOx/Merck	\$340M
Amira/Roche	\$287M
AstraZeneca/Pozen	\$200M
AstraZeneca/Abraxis	\$200M
Enzon/Santaris	\$200M
Astex/Novartis	\$190M
MethylGene/Pharmion	\$170M

2006 Partnering Highlights

- > Partnering continues to play an important role in industry – over \$13 B in transaction values in 2006
- > Significant jump in average total Phase I deal values from \$57M in 2004 to \$82M in 2005
- > Big Pharma continues to partner early (Pre-Clinical & Phase I) to access key technologies, targets and products
 - > Preclin and Ph I products are not cheap, but cheaper
 - > Increasingly paying for performance
- > Deal structures can allow Pharmas to run internal and external programs in competition, choosing between them at proof-of-concept



Dedicada a promover
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