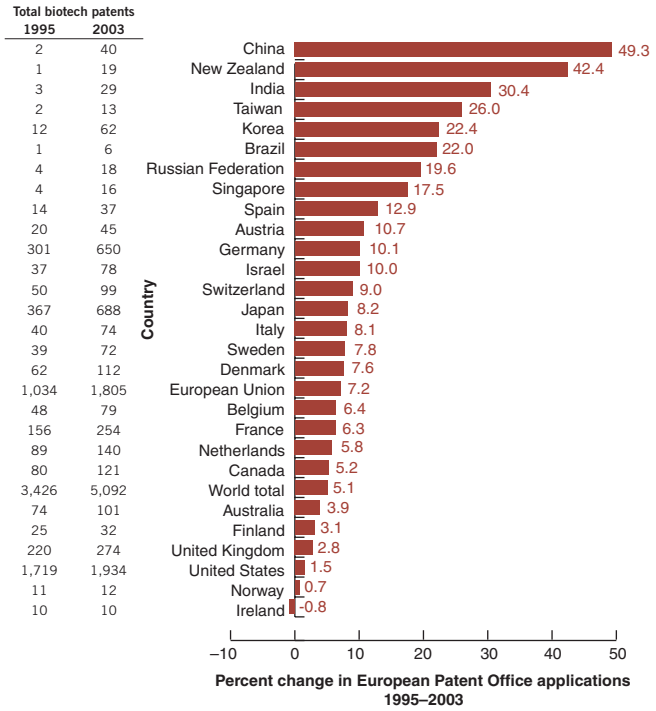
Biotech patents still strong

Stacy Lawrence

Last year, biotech patents continued to represent an increasing share of US patents. In 2006, 25 out of every 1,000 US patent specifications referred to 'nucleic acid' and 45 out of 1,000 referred to 'pharmaceutical.' In Europe, more than 5,000 biotech patent applications were filed with the European Patent Office in 2003, up from <3,500 in 1995. For European biotech patent applications, German, US and Japanese inventions had the largest absolute increase, whereas those from China, New Zealand and India had the largest percentage growth.

Biotech patents as a percentage of national total

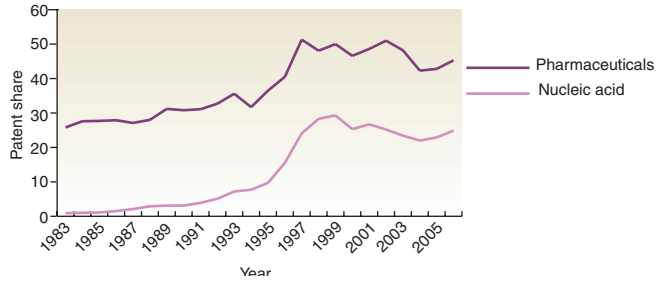
At the European Patent Office, biotech patent applications from inventors based in China, New Zealand and India grew the most between 1995 and 2003.



Based on biotech patent applications filed with the European Patent Office for inventor's country. Numbers next to bar indicate total number of biotech patents in year. Source: OECD

Patent share for biotech and pharmaceutical terms

Biotech and pharmaceutical patent share continues to rise, but has not returned to the peak levels of the late 1990s and early 2000s.



Based on terms in specification of US Patent and Trademark Office patents by approval year. Patent share is the number per one thousand patents. Source: Finnegan, Henderson, Farabow, Garrett & Dunner

Corrected after print 26 February 2008.

Research terms in approved patents and patent applications

	Issued patents 2006			Published applications 2006		
	Number	Number per one thousand patents	Percentage change from 2005	Number	Number per one thousand patents	Percentage change from 2004
RNA interference or RNAi	225	1.1	170%	RNA interference or RNAi	1,675	5.7	15%
Hybridoma	1,581	8.0	23%	Brain	8,593	29.2	0%
Growth factor	2,605	13.3	21%	Growth factor	6,887	23.4	-1%
Transgenic	2,656	13.5	20%	Catheter or stent	7,463	25.3	-1%
Brain	3,859	19.6	20%	Stem cell	2,516	8.5	-2%
Genomic	3,660	18.6	16%	Cancer	17,696	60.1	-3%
Stem cell	812	4.1	16%	Arthritis	6,439	21.9	-3%
Kinase	3,563	18.1	15%	Protease	7,196	24.4	-4%
Polymerase chain reaction	3,130	15.9	15%	Protein	24,924	84.6	-4%
Reverse transcriptase	1,679	8.5	15%	Kinase	8,168	27.7	-5%
Monoclonal	4,120	21.0	14%	HIV or immunodeficiency	6,229	21.1	-5%
Nucleotide	5,005	25.5	12%	Heart disease	12,597	42.8	-5%
Antibody	6,051	30.8	11%	Pharmaceutical	20,819	70.7	-6%
Peptide	6,741	34.3	10%	Peptide	14,790	50.2	-6%
Drug delivery	2,063	10.5	10%	Transgenic	5,674	19.3	-7%
Gene therapy	1,783	9.1	10%	Antibody	13,819	46.9	-7%
Nucleic acid	4,896	24.9	9%	Amino acid	15,159	51.5	-7%
Amino acid	7,114	36.2	9%	Drug delivery	5,595	19.0	-7%
Arthritis	2,670	13.6	8%	Nucleic acid	11,312	38.4	-8%
Cancer	7,178	36.5	8%	Monoclonal	9,259	31.4	-8%
HIV or immunodeficiency	2,596	13.2	7%	Genomic	7,714	26.2	-9%
Protein	10,737	54.7	7%	Nucleotide	10,411	35.3	-10%
Protease	3,250	16.5	6%	Polymerase chain reaction	6,230	21.2	-10%
Pharmaceutical	8,900	45.3	6%	Reverse transcriptase	3,792	12.9	-10%
Heart disease	5,364	27.3	2%	Gene therapy	4,208	14.3	-10%
Catheter or stent	2,829	14.4	-4%	Hybridoma	3,226	11.0	-11%

2006 US Patent and Trademark Office data. Cancer, arthritis, heart disease and brain include related terms. Based on a search of terms in the specification section of patent or application. Source: Finnegan, Henderson, Farabow, Garrett & Dunner

Top 20 organizations with the most US biotech patents issued

2006		2005	
Institution	Number of new patents	Institution	Number of new patents
University of California	134	University of California	99
Genentech	124	US government	84
US government	110	Appelera	63
Appelera	62	Human Genome Sciences	58
Pioneer Hi-Bred	81	Genentech	54
Du Pont	80	ISIS Pharmaceuticals	42
Human Genome Sciences	59	Pioneer Hi-Bred	42
Agilent Technologies	55	Agilent Technologies	39
Millennium Pharmaceuticals	54	Millennium Pharmaceuticals	36
University of Texas	49	University of Texas	36
Amgen	41	E. I. du Pont de Nemours	33
Affymetrix	37	Affymetrix	32
Merck	34	Amgen	28
Stanford	34	University of Michigan	27
MIT	34	MIT	26
Monsanto	33	Columbia University	25
Cornell University	33	Lexicon Genetics	23
Wisconsin Alumni Research Foundation	31	Bayer	22
Sanofi/Aventis	30	Chiron	21
Chiron	29	Merck	19
Bayer	29	Aventis	19

US Patent and Trademark Office patents featuring the term 'nucleic acid' in the specification section of the patent. Source: Finnegan, Henderson, Farabow, Garrett & Dunner University/research institution, Government, Business

Stacy Lawrence is a Senior Writer at BioCentury