

TABLE S8-20

## USPTO patents and patent families granted in pharmaceuticals, by region, country, or economy: 1998–2018

(Number)

Region, country, or economy	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		
	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families	USPTO patents	Patent families			
World	3,979	3,623	4,247	3,682	3,931	4,297	4,238	3,859	4,289	3,574	3,957	4,102	2,925	5,297	2,581	5,045	3,243	6,722	2,696	6,724	2,690	6,404	2,730	6,583	3,979	7,617	4,012	11,216	4,739	11,888	5,758	11,996	6,590	13,284	6,722	12,225	6,565	11,052	7,225	9,405	6,904	10,030	
North America	2,735	2,886	1,207	953	2,645	1,350	2,884	901	2,880	719	2,590	586	1,910	418	1,665	293	2,088	323	1,719	2,482	2,690	2,480	2,391	1,697	2,221	2,447	2,455	2,892	2,278	3,433	3,066	3,928	247	3,886	231	4,310	226	3,886	231	4,039	206		
Canada	137	64	143	50	134	50	133	43	148	31	136	26	109	20	84	12	104	19	91	16	97	21	96	18	127	24	133	21	112	15	146	14	159	16	164	15	138	10	152	10	167	14	
Mexico	1	1	2	1	4	2	2	1	0	0	5	0	2	1	2	0	2	0	1	1	3	2	4	1	6	0	9	4	13	2	11	1	7	2	10	4	34	9	50	8	35		
Puerto Rico	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	3	0	2	0	3	0	2	0	0	2	0	0	4	0	1	0	0	2	0		
United States	2,597	1,286	2,741	1,156	2,507	902	2,668	858	2,731	688	2,449	560	1,799	397	1,579	280	1,982	305	1,627	255	1,574	215	1,597	202	2,346	264	2,307	223	2,769	258	3,272	249	3,721	289	3,755	230	3,734	186	4,148	167	3,863	157	
All others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Central and South America	12	6	10	9	10	4	11	8	19	8	16	8	8	12	6	6	16	6	12	9	11	9	11	17	22	14	21	14	26	13	34	18	51	13	38	27	42	16	36	23	40	49	
Argentina	6	3	5	3	4	2	7	3	7	3	9	2	4	2	1	2	6	2	4	1	3	0	4	3	1	2	6	2	5	3	9	3	5	1	5	0	10	1	9	2	7	2	
Brazil	0	1	2	3	3	2	1	5	2	3	5	4	1	6	2	2	7	4	2	2	6	6	4	10	9	10	13	6	17	7	10	9	6	17	19	17	12	11	17	12	45		
All others	3	2	3	3	3	1	3	1	10	2	2	3	3	2	2	2	3	3	4	4	3	8	3	5	12	3	10	3	11	4	9	28	5	23	8	15	3	16	4	10	2		
Europe	825	1,380	882	1,403	876	1,418	914	1,080	873	1,531	870	1,686	638	2,207	552	1,427	669	1,593	566	1,476	596	1,667	582	1,679	888	1,504	882	1,636	1,028	1,678	1,260	1,408	1,479	1,469	1,534	1,560	1,450	1,248	1,574	1,570	1,474	1,471	
EU	751	603	813	618	807	654	839	540	806	592	805	601	589	723	504	595	616	654	523	610	550	626	531	591	813	619	788	642	925	699	1,123	563	1,312	529	1,385	476	1,282	455	1,391	624	1,312	567	
Austria	21	10	23	16	13	9	13	17	15	21	11	18	8	8	11	16	9	16	12	11	17	13	11	24	10	25	12	32	6	43	8	25	6	33	5	37	6	30	11				
Belgium	30	6	35	8	36	7	29	6	42	6	31	5	33	6	22	5	32	7	27	6	27	8	26	3	43	3	28	6	34	4	47	4	66	7	66	4	62	11	64	7			
Denmark	30	7	34	5	22	5	34	1	24	4	25	2	21	4	22	5	24	4	22	5	25	3	19	4	36	1	33	1	43	2	59	5	61	1	60	3	63	0					
Finland	16	8	18	8	15	14	16	10	15	10	14	9	12	8	10	7	11	5	8	4	8	3	8	2	14	6	11	5	17	4	9	3	12	4	7	14	6	12	4				
France	136	191	125	162	134	166	143	197	124	183	150	216	87	268	84	181	99	249	79	245	94	233	90	184	138	199	128	173	171	282	202	214	233	143	248	141	226	116	232	102	219	98	
Germany	172	127	210	118	212	116	222	71	206	93	219	80	162	82	132	81	98	141	144	98	141	80	131	72	208	131	201	59	239	57	328	44	344	44	310	44	341	48	301	39			
Hungary	5	7	4	6	4	7	4	3	8	6	7	9	5	2	4	5	4	11	3	6	5	9	6	10	7	17	4	17	6	13	6	7	3	9	5	10	12	8	6				
Ireland	3	5	3	1	9	2	4	1	6	1	6	1	7	1	7	1	3	1	4	2	6	1	4	0	8	2	10	3	9	2	13	1	15	2	13	1	16	2	17	0			
Italy	61	77	69	124	65	136	79	77	67	106	60	70	49	156	42	68	51	20	43	23	45	19	50	27	74	52	84	76	99	52	112	21	139	19	136	7	131	14	117	186	114	136	
Netherlands	29	14	36	16	30	12	32	15	33	18	31	25	28	12	28	11	27	10	28	8	28	15	36	8	42	9	53	16	46	12	55	8	66	8	64	15	73	11	60	7			
Spain	15	35	8	29	8	45	8	35	17	25	14	47	10	43	7	75	13	76	11	69	12	77	15	73	21	107	19	117	24	91	41	97	48	89	75	101	64	64	55	55	70		
Sweden	60	17	59	22	62	20	55	15	66	20	62	14	37	21	35	10	37	14	28	7	34	10	27	9	42	10	41	5	46	7	46	3	63	6	64	5	64	5	75	5	70	4	
United Kingdom	167	26	176	23	191	38	186	26	176	25	151	19	115	23	95	24	134	26	108	19	111	19	90	22	140	21	135	25	158	22	200	13	199	13	233	14	225	21	251	6	254	12	
All others	6	72	15	79	8	78	15	66	8	73	16	87	10	93	6	108	15	96	8	109	6	131	17	165	14	123	15	126	16	139	24	136	35	177	29	134	31	148	173	33	172		
Other Europe	74	776	69	785	69	765	74	540	68	939	65	1,085	49	1,484	48	831	53	938	42	867	46	1,041	50	1,088	75	885	94	994	103	885	979	940	845	168	940	150	1,084	168	793	182	946	162	904
Former Soviet Union	1	42	0	53	0	38	1	42	2	73	1	170	0	608	0	115	0	105	0	112	0	118	0	119	0	108	1	140	0	98	2	84	2	113	1	113	2	116	4	90	1	85	
Norway	10	5	10	2	16	4	15	9	7	5	9	3	7	2	8	4	6	2	11	2	7	1	9	1	13	2	15	2	17	0	20	5	27	1	22	2	24	2	23	4			
Russia	12	708	14	703	8	703	9	469	11	836	8	895	5	858	7	699	5	811	6	730	6	903	8	950	12	753	10	830	11	852	21	738	22	959	23	658	30	835	19	785			
Switzerland	47	18	39	24	40	17	47	17	44	22	40	14	36	12	31	10	38	11	24	15	32	12	29	13	47	15	62	16	70	17	85	9	104	6	94	6	115	12	110	13	105	22	
All others	2	4	5	3	5	2	3	3	4	3	7	3	2	4	2	3	3	5	2	8	1	7	4	5	2	6	6	5	10	7	10	9	15	7	10	5	6	13	6	13	10		

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China	5	80	10	164	9	1,191	15	1,185	16	698	18	1,048	22	1,825	23	2,077	31	3,202	37	3,264	37	3,098	31	3,621	38	4,634	43	7,618	71	7,820	102	8,007	125	8,847	148	8,337	171	6,937	204	5,103	242	6,271		
India	10	5	11	7	15	8	28	11	30	20	46	31	25	21	31	17	39	24	30	24	30	29	20	22	9	34	12	41	7	64	86	7	97	8	121	9	146	13	125	4	4			
Japan	267	582	287	557	239	490	312	457	287	291	244	334	180	423	176	343	250	351	187	425	171	435	205	532	279	614	287	731	306	774	398	699	431	714	422	510	342	630	351	537	359	513		
Malaysia	0	0	0	0	0	0	0	0	2	2	2	3	1	0	0	0	1	0	1	3	2	2	0	0	1	3	4	2	8	4	14	2	15	9	12	4	11	5	18	4	22	7	12	
Singapore	1	0	1	1	4	0	1	0	1	0	3	1	2	1	2	0	4	0	4	1	7	1	4	0	5	1	9	0	11	0	14	2	15	2	18	1	20	1	21	1	24	3	3	
South Korea	16	133	24	235	23	110	28	79	30	132	32	287	33	254	25	745	32	1,047	35	1,081	28	743	32	355	58	394	58	775	80	1,031	99	1,194	128	1,466	139	1,084	172	1,327	197	1,593	205	1,256		
Taiwan	8	9	11	14	11	25	13	32	21	24	17	28	20	28	22	46	27	58	57	33	53	33	48	35	49	62	58	91	75	145	99	219	99	213	103	103	120	222	123	164	164			
All others	0	6	1	8	2	6	2	2	2	6	1	4	2	7	1	10	4	2	8	2	7	2	6	2	6	3	3	7	4	13	5	9	4	10	9	8	6	12	5	9	4	6		
Middle East	43	19	61	19	48	29	42	35	61	41	62	24	42	21	40	11	42	22	43	19	51	34	57	9	68	11	84	13	97	14	128	24	150	14	148	19	136	27	149	25	170	35	35	
Israel	41	15	59	17	45	13	40	14	59	14	61	11	41	9	37	4	41	4	42	7	51	7	55	8	67	3	80	5	125	3	134	3	132	5	116	3	127	4	127	1	1			
All others	1	4	2	2	2	16	1	20	2	25	1	13	1	12	4	7	1	18	1	11	0	27	2	1	2	8	3	8	6	10	3	19	16	12	16	17	20	22	21	21	43	33	33	
Africa	5	10	4	6	6	8	7	10	6	17	7	12	3	22	3	18	3	20	5	16	2	20	5	16	10	12	7	8	9	6	15	9	18	10	2	8	12	9	11	11	11	5	1	
South Africa	3	2	3	1	4	0	4	0	4	4	5	3	2	9	1	5	2	10	7	7	1	12	2	11	3	6	3	0	5	1	9	1	3	7	0	6	1	5	0	8	8	1	1	
All others	2	8	1	5	5	8	3	10	3	14	2	9	1	14	2	13	2	9	4	8	1	8	3	5	7	6	4	8	4	5	6	14	6	18	3	2	3	11	5	11	3	5	5	
Australia and Oceania	51	26	59	27	42	34	59	52	58	81	48	48	40	56	34	50	38	55	36	68	44	77	47	66	44	58	70	63	71	93	81	116	99	189	97	86	359	99	50	92	33	33		
Australia	46	25	50	23	34	34	54	51	44	80	37	47	30	55	27	49	34	53	67	67	37	77	37	65	36	58	53	61	58	93	67	116	89	189	90	76	359	87	50	81	32	32		
New Zealand	5	1	9	2	7	1	6	1	14	2	11	1	9	1	7	1	5	2	7	1	7	0	10	0	8	0	16	2	13	0	14	0	10	8	2	10	1	12	0	12	0	0		
All others	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unclassified	1	16	1	27	1	18	1	7	3	2	0	2	0	1	0	0	19	0	3	0	1	0	0	3	0	3	0	1	1	1	0	0	2	2	1	2	4	1	1	1	1	0	0	

EU = European Union; USPTO = U.S. Patent and Trademark Office.

## Note(s)

USPTO patents are allocated according to patent inventorship information. USPTO patents are fractionally allocated among regions, countries, or economies based on the proportion of residences of all named inventors. Patents are classified under the World Intellectual Property Organization (WIPO) classification of patents, which classifies International Patent Classification (IPC) codes under 35 technical fields. IPC reformed codes take into account changes that were made to the WIPO classification in 2006 under the eighth version of the classification and were used to prepare these data. However, because PatentsView only provides the original IPC codes as they appeared on patents and not the IPC reformed codes, current Cooperative Patent Classification codes on patents were converted back to the most recent IPC classification to prepare these statistics. Fractional counts of patents were assigned to each technological field on patents to assign the proper weight of a patent to the corresponding technological fields under the classification. International Patent Documentation (INPADOC) patent families across all patent offices covered in the Worldwide Patent Statistical Database (PATSTAT) are counted according to the year of the first granted patent in the patent family. Patent families are allocated according to patent inventorship information found on the priority patent of the INPADOC patent families. To account for missing ownership information in PATSTAT for some offices, a method designed by de Rassenfosse et al. (2012) is used to fill in missing information on priority patents using information in successive filings within the patent families (see technical documentation for details). Patent families are fractionally allocated among regions, countries, or economies based on the proportion of residences of all named inventors. Because of data coverage issues for some patent offices in PATSTAT, statistics for some countries may be underestimated partially for some years or across the whole trend. Countries with identified issues include India (missing data) and South Africa (no data for 2018). For Italy, because of data gaps regarding information on granted patents, patent applications are used instead, which slightly overestimates Italy's output and creates a small shift in the year for which its output is accounted. The EU includes 28 member countries. China includes Hong Kong.

## Source(s)

Science-Metrix; PATSTAT, accessed April 2019; PatentsView, USPTO, accessed June 2019.