

Table SINV-21

International patent families granted in pharmaceuticals, by region, country, or economy: 1998–2020

(Number)

Region, country, or economy	Economy by income status	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
World	na	4,800	5,182	5,614	5,740	6,053	7,357	8,523	7,314	9,071	9,033	9,448	9,826	11,132	15,095	16,136	16,615	18,088	16,732	15,474	14,078	14,690	14,591	15,647
North America	na	1,496	1,575	1,322	1,463	1,506	1,645	1,410	1,074	1,256	1,246	1,429	1,480	1,629	1,657	1,877	2,010	2,179	2,025	2,043	2,111	1,964	2,167	2,063
Canada	High	74	70	68	81	85	96	97	64	73	70	96	85	97	92	94	93	102	100	89	91	90	97	85
Mexico	Upper middle	1	2	3	1	0	1	2	2	0	4	6	7	8	8	11	13	16	7	41	59	53	52	7
United States	High	1,422	1,504	1,251	1,381	1,420	1,548	1,311	1,008	1,183	1,171	1,328	1,387	1,525	1,557	1,773	1,905	2,061	1,918	1,913	1,961	1,821	2,018	1,971
Central America and Caribbean	na	4	3	2	3	3	6	7	5	10	7	10	20	7	4	7	13	6	10	7	3	1	5	6
Puerto Rico	High	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
South America	na	13	12	10	11	15	19	23	14	17	13	17	23	22	26	32	37	35	41	38	42	64	85	126
Argentina	Upper middle	8	5	3	3	7	7	9	4	4	3	2	5	6	5	4	5	5	5	7	7	6	11	2
Brazil	Upper middle	2	5	7	8	6	12	11	8	12	7	10	16	12	15	19	23	19	22	23	24	49	63	115
Europe	na	1,878	1,872	1,751	1,538	2,176	2,544	3,070	2,170	2,288	2,222	2,558	2,551	2,382	2,570	2,582	2,366	2,450	2,428	2,130	2,407	2,381	2,434	1,918
EU-27 + UK ^a	na	1,059	1,052	964	958	1,184	1,382	1,507	1,259	1,271	1,269	1,402	1,351	1,390	1,457	1,472	1,376	1,367	1,222	1,195	1,331	1,330	1,302	1,105
United Kingdom	High	163	149	160	150	187	227	206	188	187	158	164	132	139	114	119	105	99	75	75	69	72	76	75
EU-27 ^b	na	896	902	805	808	997	1,155	1,301	1,071	1,084	1,110	1,238	1,219	1,251	1,342	1,353	1,272	1,268	1,147	1,120	1,263	1,258	1,226	1,030
Austria	High	16	21	17	21	26	29	23	21	23	22	25	26	27	26	26	36	28	21	26	29	33	29	24
Belgium	High	24	20	20	21	30	29	37	32	34	40	49	34	34	41	40	36	44	52	55	48	37	40	55
Denmark	High	37	25	14	27	17	27	30	22	24	31	35	43	39	51	47	45	47	35	34	27	31	31	41
Finland	High	12	16	14	15	14	21	17	14	10	15	15	11	10	12	9	8	9	12	14	13	12	12	9
France	High	227	179	168	225	231	285	335	210	280	293	291	266	275	286	358	300	257	249	226	196	210	242	248
Germany	High	270	270	223	219	324	359	391	354	362	326	387	376	342	348	345	332	347	306	300	277	248	262	210
Hungary	High	10	8	12	9	12	17	14	13	15	19	15	18	22	21	21	17	10	15	13	21	11	16	13
Ireland	High	7	3	6	8	7	5	6	7	7	10	11	11	9	11	12	13	10	16	10	7	10	10	9
Italy	High	94	144	146	91	120	103	179	96	49	60	48	56	100	130	100	84	70	59	63	258	243	155	64
Netherlands	High	37	37	19	25	42	56	38	43	37	45	51	49	53	64	55	58	63	49	54	65	64	72	63
Spain	High	38	36	45	38	32	58	54	80	80	82	91	97	152	152	132	140	130	134	102	83	107	97	66
Sweden	High	48	57	36	39	59	68	68	64	54	47	69	50	50	45	42	36	45	33	40	31	32	35	33
Other Europe	na	819	820	787	580	992	1,162	1,563	911	1,017	953	1,156	1,200	992	1,113	1,110	989	1,084	1,206	936	1,076	1,050	1,132	814
Other Europe-2020 ^b	na	982	969	947	730	1,179	1,389	1,769	1,099	1,204	1,111	1,320	1,332	1,131	1,227	1,229	1,094	1,182	1,281	1,011	1,144	1,122	1,208	889
Belarus	Upper middle	3	1	2	1	5	2	5	2	10	1	4	1	8	10	9	5	2	6	5	3	5	10	5
Moldova	Lower middle	19	19	11	16	14	21	18	15	28	22	24	35	20	10	13	14	13	9	14	18	4	21	12
Norway	High	10	8	12	14	11	10	11	11	11	11	9	7	8	11	8	12	9	8	15	13	11	12	9
Russia	Upper middle	714	703	704	473	837	901	862	702	813	739	909	958	762	840	867	756	832	975	676	854	827	930	676
Switzerland	High	45	40	27	43	61	66	70	64	79	79	105	100	104	102	118	103	106	84	99	84	97	88	86

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Ukraine	Lower middle	21	43	26	29	58	155	589	108	69	90	92	85	83	124	78	72	103	103	101	75	81	52	3
Asia	na	1,077	1,276	2,119	2,175	1,614	2,172	3,028	3,530	4,943	5,152	5,007	5,435	6,793	10,566	11,360	11,903	13,129	11,980	10,998	9,290	10,050	9,669	11,273
China	Upper middle	83	170	1,207	1,206	722	1,071	1,865	2,137	3,297	3,405	3,292	3,890	5,005	8,099	8,386	8,682	9,546	9,032	7,646	5,821	7,027	6,800	8,287
India	Lower middle	13	13	22	28	34	68	66	53	65	71	80	70	73	72	104	111	116	108	150	130	103	131	109
Japan	High	809	819	733	758	589	670	752	708	765	841	874	1,010	1,164	1,402	1,534	1,482	1,493	1,229	1,387	1,224	1,169	1,074	1,093
Malaysia	Upper middle	1	0	0	0	2	4	0	1	1	4	2	1	4	10	16	22	23	10	17	19	14	3	4
Singapore	High	3	2	2	2	0	2	3	3	3	6	4	4	6	6	7	14	15	12	15	12	19	17	8
South Korea	High	151	244	121	140	227	314	299	570	745	750	676	384	454	846	1,128	1,322	1,661	1,309	1,500	1,812	1,446	1,390	1,581
Taiwan	High	10	15	26	36	25	36	32	48	65	65	70	66	80	121	170	258	259	257	260	253	250	240	178
Middle East	na	36	48	52	62	91	95	79	62	70	50	87	56	54	67	74	90	86	71	87	87	113	106	114
Israel	High	31	45	36	41	65	82	64	47	46	37	57	54	42	52	61	67	67	51	60	58	66	60	69
Africa	na	16	10	10	15	21	17	30	25	30	25	37	31	18	18	16	24	26	14	19	18	11	15	11
South Africa	Upper middle	8	4	2	4	7	6	15	10	19	12	23	23	11	7	8	8	6	9	4	4	4	8	3
Australia and Oceania	na	264	339	317	466	622	852	871	427	399	305	291	215	215	178	176	164	162	152	134	109	93	97	120
Australia	High	234	297	286	422	557	786	802	350	308	228	192	139	136	100	92	81	76	72	77	61	62	76	109
New Zealand	High	30	40	31	44	65	66	68	77	91	77	99	76	79	78	84	82	86	79	57	49	31	20	11
Unclassified	na	17	47	31	8	6	7	5	8	58	13	12	14	12	10	11	8	15	11	16	10	12	13	14

na = not applicable, metric not calculated at this level.

EU = European Union; UK = United Kingdom.

^a The United Kingdom was a part of the EU for data purposes from 1973 to 2019.^b Beginning in 2020, the United Kingdom was no longer a member of the EU.**Note(s):**

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. (2013) is used to fill missing information on priority patents using information in successive filings within the families. Priority patents not indexed in PATSTAT are replaced by the next utility patent(s) in the families according to filing dates. Patent families 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. China includes Hong Kong. Data were extracted in June 2021. 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 year for which its output is accounted. As patent authorities become more involved with the European Patent Organisation, these gaps should disappear in the future, strengthening the robustness of statistics for these countries.

Source(s):

National Center for Science and Engineering Statistics; Science-Metrix; PATSTAT, accessed October 2021.