

REPORT 2 : TENOFOVIR

By Craig Paardekooper

DATA SOURCE : EUDRA-VIGILANCE



ACCESS : [Dropbox](#)

Tenofovir belongs to the same family of drugs as Remdesivir. Here I list the most common symptoms for this drug in order of highest incidence.

Table 1 : Percentage of Reports for each Symptom with Tenofovir

SYMPTOM	FREQ	%
bone density decreased	60828	8.47
chronic kidney disease	42287	5.89
renal injury	39203	5.46
osteonecrosis	35888	5.00
skeletal injury	35186	4.90
bone loss	35072	4.88
renal failure	34422	4.79
multiple fractures	33532	4.67
osteoporosis	29106	4.05
tooth loss	28820	4.01
pain	24621	3.43
emotional distress	24368	3.39
anxiety	22213	3.09
anhedonia	21442	2.98
osteopenia	14253	1.98
tooth injury	12780	1.78
-	10176	1.42
acute kidney injury	8966	1.25
blood creatinine increased	8115	1.13
renal impairment	7941	1.11
economic problem	7922	1.10
fracture	5336	0.74
nephropathy	4898	0.68
vitamin d deficiency	3611	0.50
depression	3585	0.50
bone density abnormal	3303	0.46
foot fracture	3093	0.43
end stage renal disease	3009	0.42
drug ineffective	2581	0.36
bone disorder	2512	0.35
fatigue	2270	0.32
bone demineralisation	2268	0.32
ankle fracture	2024	0.28
osteoarthritis	1934	0.27
tooth fracture	1859	0.26
arthralgia	1859	0.26

SYMPTOMS of TENOFOVIR

	kidney injury
	bone injury

protein total abnormal	1844	0.26
fanconi syndrome acquired	1829	0.25
rib fracture	1824	0.25
proteinuria	1824	0.25
gait disturbance	1728	0.24
loss of personal independence in daily activities	1683	0.23
hand fracture	1627	0.23
wrist fracture	1556	0.22
asthenia	1517	0.21
weight increased	1507	0.21
hip fracture	1458	0.20
death	1403	0.20
back pain	1169	0.16
nausea	1162	0.16
osteomalacia	1161	0.16
nephrolithiasis	1149	0.16
hip arthroplasty	1143	0.16
glomerular filtration rate decreased	1079	0.15
quality of life decreased	1066	0.15
diarrhoea	1046	0.15
insomnia	1042	0.15
lower limb fracture	1037	0.14
anaemia	1029	0.14
bone pain	1005	0.14
viral load increased	930	0.13
off label use	907	0.13
hypertension	902	0.13
rash	893	0.12
headache	887	0.12
mobility decreased	869	0.12
glomerular filtration rate abnormal	861	0.12
vomiting	858	0.12
renal disorder	841	0.12
spinal fracture	834	0.12
decreased activity	832	0.12
upper limb fracture	822	0.11
immune reconstitution inflammatory syndrome	804	0.11
intervertebral disc degeneration	803	0.11
dysstasia	783	0.11
femur fracture	769	0.11
drug interaction	748	0.10
dental caries	746	0.10
drug resistance	678	0.09
dizziness	667	0.09
pain in extremity	659	0.09
tibia fracture	630	0.09
nephropathy toxic	589	0.08
spinal osteoarthritis	568	0.08
renal tubular disorder	566	0.08
spinal compression fracture	560	0.08
maternal exposure during pregnancy	545	0.08

pruritus	541	0.08
myalgia	537	0.07
pyrexia	518	0.07
weight decreased	510	0.07
treatment noncompliance	506	0.07
renal cyst	505	0.07
arthritis	477	0.07
pollakiuria	477	0.07
protein total increased	474	0.07
renal tubular necrosis	465	0.06
fall	458	0.06
dyspnoea	456	0.06
hypophosphataemia	453	0.06
fibula fracture	453	0.06
general physical health deterioration	443	0.06
abdominal pain	441	0.06
shoulder fracture	440	0.06
sleep disorder	433	0.06
neuropathy peripheral	432	0.06
pneumonia	428	0.06
clavicle fracture	424	0.06
nightmare	414	0.06
virologic failure	413	0.06
impaired work ability	398	0.06
genotype drug resistance test positive	397	0.06
blood hiv rna increased	382	0.05
malaise	379	0.05
teeth brittle	372	0.05
osteoporotic fracture	367	0.05
protein urine present	365	0.05
fanconi syndrome	363	0.05
suicidal ideation	351	0.05
renal tubular dysfunction	345	0.05
haematuria	343	0.05
humerus fracture	330	0.05
abdominal pain upper	326	0.05
craniofacial fracture	323	0.04
abnormal dreams	315	0.04
radius fracture	315	0.04
tooth extraction	312	0.04
foetal exposure during pregnancy	312	0.04
hypokalaemia	305	0.04
tooth disorder	305	0.04
decreased appetite	302	0.04
muscular weakness	292	0.04
gastrointestinal disorder	291	0.04
jaw fracture	290	0.04
alanine aminotransferase increased	290	0.04
pancreatitis	288	0.04
blood creatine increased	287	0.04
diabetes mellitus	287	0.04

dysphagia	283	0.04
spinal stenosis	279	0.04
renal pain	278	0.04
rhabdomyolysis	273	0.04
intervertebral disc protrusion	270	0.04
lactic acidosis	269	0.04
hyperkalaemia	262	0.04
metabolic acidosis	261	0.04
degenerative bone disease	258	0.04
injury	255	0.04
pathological fracture	254	0.04
glycosuria	250	0.03
cd4 lymphocytes decreased	245	0.03
tubulointerstitial nephritis	239	0.03
treatment failure	237	0.03
hypoesthesia	227	0.03
paraesthesia	226	0.03
condition aggravated	226	0.03
joint injury	225	0.03
blood creatinine abnormal	224	0.03
blood creatine phosphokinase increased	221	0.03
chronic kidney disease-mineral and bone disorder	218	0.03
stress fracture	218	0.03
vertigo	216	0.03
acute hiv infection	215	0.03
fear	212	0.03
compression fracture	209	0.03
product dose omission issue	209	0.03
kidney infection	207	0.03

What is remarkable is the prominence of bone injury and kidney injury.

Whatever the mechanism of Tenofovir, it appears to attack every bone in the body, including teeth, causing them to disintegrate or break. I have never seen a drug like this.

Can you imagine the effect on a foetus exposed to this drug through a mother's medication ?

CLINICAL REPORTS

<https://www.chaffinluhana.com/tenofovir-and-bone-loss-what-you-need-to-know/>

DRUGS ASSOCIATED WITH BONE DAMAGE

I have highlighted the anti-retro-viral drugs associated with bone damage - the main ones being

- Tenofovir combinations
- Adefovir
- Tenofovir alone
- Lopinavir + Ritonavir combined
- Indinavir
- Ritonavir alone
- Abacavir
- etc.

The reason why anti-retro-viral drugs appear prominently in this table is that they cause kidney damage, leading to dysregulation of renal functions and the excretion of nutrients necessary for bone repair and growth.

The table below is a useful means of seeing which drug ingredients or drug combinations cause bone damage out of the entire 17,194 unique ingredient lists in the dataset.

If you are suffering from bone damage, bone pain or arthritis then this table may indicate a current medication that is a causal factor.

If you are receiving any Anti-Retro-Viral Therapy (ART) for HIV, then please check your drug against the table below.

EXCEL SPREADSHEET : <https://howbad.info/bone-damage.xlsx>

DRUGS (associated with bone damage)	REPORTS	TOTAL	%
clodronate disodium	96	294	32.65
emtricitabine, tenofovir disoproxil fumarate	58749	182097	32.26
emtricitabine, tenofovir disoproxil fumarate, cobicistat, elvitegravir	16353	51724	31.62
autologous human chondrocytes in vitro expanded	53	170	31.18
emtricitabine, efavirenz, tenofovir disoproxil, emtricitabine, efavirenz, tenofovir disoproxil fumarate	103933	387197	26.84
clodronic acid	27	109	24.77
emtricitabine, tenofovir disoproxil fumarate, cobicistat, elvitegravir, emtricitabine, tenofovir disoproxil, cobicistat, elvitegravir	1903	9609	19.80
emtricitabine, tenofovir disoproxil, emtricitabine, tenofovir disoproxil fumarate	5073	25744	19.71
tenofovir disoproxil, tenofovir disoproxil fumarate	2666	15891	16.78
anhydrous disodium clodronate, clodronate disodium	15	104	14.42
zoledronic acid	122	1057	11.54
ibandronate sodium hydrate, ibandronic acid	1005	9460	10.62
ibandronic acid	119	1150	10.35
clodronate disodium, clodronate disodium tetrahydrate	22	225	9.78
alendronate sodium, alendronic acid	48	569	8.44
adefovir dipivoxil	629	7598	8.28
tenofovir	69	848	8.14
zoledronic acid, zoledronic acid monohydrate	512	6448	7.94

alendronate sodium	88	1391	6.33
alendronate sodium hydrate, alendronic acid	12	198	6.06
radium ra 223 dichloride	522	8957	5.83
lopinavir, ritonavir	1833	32618	5.62
anhydrous pamidronate disodium, pamidronate disodium	28	516	5.43
triptorelin pamoate	20	369	5.42
alendronate sodium hydrate	24	462	5.19
tenofovir disoproxil fumarate	143	2777	5.15
sorafenib tosilate	13	254	5.12
denosumab	450	9097	4.95
alendronic acid, colecalciferol, colecalciferol, alendronate sodium trihydrate	27	582	4.64
romosozumab	567	12253	4.63
alendronate sodium, alendronate sodium trihydrate, alendronic acid	126	2849	4.42
tenofovir disoproxil	35	882	3.97
neridronate sodium, neridronic acid	18	474	3.80
alendronic acid	14	396	3.54
benzyl alcohol, sodium chloride	11	334	3.29
emtricitabine, tenofovir alafenamide fumarate, cobicistat, elvitegravir, emtricitabine, tenofovir alafenamide, cobicistat, elvitegravir	141	4313	3.27
ibandronic acid, ibandronic acid monosodium salt, monohydrate	23	752	3.06
alendronate sodium, vitamin d	10	330	3.03
raloxifene hydrochloride	436	14474	3.01
fulvestrant	1556	53375	2.92
doxorubicin, doxorubicin hydrochloride	30	1064	2.82
radiotherapy	12	426	2.82
luspatercept	33	1185	2.78
cytarabine, daunorubicin	35	1264	2.77
filgrastim	565	20806	2.72
abemaciclib	50	1900	2.63
paclitaxel, paclitaxel albumin-bound	144	5507	2.61
estradiol, ethinylestradiol, norgestimate	41	1639	2.50
pegfilgrastim	851	34033	2.50
clindamycin hcl	18	741	2.43
alpelisib	141	5810	2.43
ribociclib	450	19314	2.33
anastrozole	74	3237	2.29
exemestane	12	535	2.24
emtricitabine, tenofovir alafenamide	114	5235	2.18
estradiol, estradiol enantate	25	1152	2.17
letrozole	11	507	2.17
lutetium (177lu) vipivotide tetraxetan	34	1580	2.15
desoximetasone	14	696	2.01
canagliflozin	170	8554	1.99
triptorelin	32	1613	1.98
indinavir	32	1617	1.98
cabazitaxel	250	12887	1.94
ritonavir	235	12215	1.92
teriparatide	2425	128193	1.89
goserelin, goserelin acetate	148	8011	1.85
abacavir sulfate, lamivudine, abacavir, lamivudine	50	2720	1.84
sunitinib	84	4625	1.82
entecavir	70	3929	1.78

clobetasol	16	906	1.77
abacavir, lamivudine	30	1699	1.77
cortisone	16	909	1.76
valsartan, valsartan, hydrochlorothiazide	18	1034	1.74
clofarabine	67	3891	1.72
atazanavir, atazanavir sulfate	88	5365	1.64
cinacalcet, cinacalcet hydrochloride	121	7386	1.64
acitretin, acitretin 25%	41	2522	1.63
etoposide	13	830	1.57
emtricitabine	92	5897	1.56
goserelin	22	1435	1.53
everolimus	1058	69781	1.52
darolutamide	29	1914	1.52
interferon alfa	13	858	1.52
atenolol	83	5536	1.50
bleomycin, bleomycin sulfate	47	3154	1.49
darunavir, darunavir ethanolate	10	687	1.46
prednisone	43	2971	1.45
dactinomycin	17	1204	1.41
abiraterone acetate	21	1536	1.37
bicalutamide	31	2271	1.37
tenofovir alafenamide	28	2063	1.36
ponatinib	15	1114	1.35
emtricitabine, tenofovir disoproxil	11	818	1.34
hydroxycarbamide	32	2405	1.33
cobicistat	10	774	1.29
temozolomide	224	17406	1.29
etanercept, etanercept, hydrochlorothiazide	28	2265	1.24
saquinavir, saquinavir mesilate	35	2856	1.23
cabozantinib	295	24652	1.20
thiotepa	38	3214	1.18
dinutuximab	11	931	1.18
estradiol	244	20710	1.18
emtricitabine, tenofovir alafenamide, bictegavir	244	20824	1.17
capecitabine	368	31917	1.15
imatinib mesilate	18	1565	1.15
raltegravir, raltegravir potassium	123	10738	1.15
betamethasone, betamethasone sodium phosphate	52	4616	1.13
articaine hydrochloride, epinephrine bitartrate	12	1070	1.12
dolutegravir	99	8836	1.12
somatropin	399	35860	1.11
romiplostim	207	18638	1.11
calcium carbonate	11	991	1.11
strontium ranelate	72	6494	1.11
triptorelin, triptorelin acetate	18	1640	1.10
rufinamide	11	1006	1.09
esomeprazole, esomeprazole magnesium, esomeprazole magnesium trihydrate, esomeprazole sodium	118	10801	1.09
etanercept	805	74358	1.08
durvalumab	13	1202	1.08
carmustine	79	7354	1.07
eltrombopag	25	2349	1.06

afatinib	13	1231	1.06
indinavir, indinavir sulfate	80	7609	1.05
varicella virus oka/merck strain (live, attenuated), varicella virus oka/merck strain, (live, attenuated) produced in human diploid (mrc-5) cells	937	89190	1.05
abatacept	932	89001	1.05
docetaxel	390	37317	1.05
palbociclib	1104	105762	1.04
methotrexate sodium	24	2311	1.04
methotrexate	594	57361	1.04
cinacalcet	62	6071	1.02
metformin hydrochloride, sitagliptin, metformin hydrochloride, sitagliptin phosphate, metformin hydrochloride, sitagliptin phosphate monohydrate, metformin, sitagliptin	158	15585	1.01
enzalutamide	664	65607	1.01
cytarabine	419	41955	1.00
darunavir	56	5618	1.00
celecoxib	195	19904	0.98
efavirenz	134	13691	0.98
anakinra	232	23718	0.98
epirubicin, epirubicin hydrochloride	15	1546	0.97
gefitinib	221	22930	0.96
canakinumab	37	3847	0.96
sodium hyaluronate	49	5104	0.96
melphalan	73	7684	0.95
relugolix	10	1057	0.95
acitretin	52	5521	0.94
atenolol, atenolol bp	281	29980	0.94
tofacitinib citrate	16	1719	0.93
blinatumomab	73	7869	0.93
tofacitinib, tofacitinib citrate	1012	111155	0.91
hyaluronic acid	22	2447	0.90
anhydrous docetaxel, docetaxel	18	2036	0.88
midostaurin	24	2719	0.88
dasatinib	293	33526	0.87
pimecrolimus	29	3342	0.87
paclitaxel	82	9451	0.87
ruxolitinib, ruxolitinib phosphate	245	28240	0.87
Unknown	20	2346	0.85
arsenic trioxide	20	2352	0.85
hydrochlorothiazide, lisinopril	23	2712	0.85
carboplatin	48	5777	0.83
doxepin, doxepin hydrochloride	10	1214	0.82
acetylsalicylic acid, acetylsalicylic acid ph. eur.	15	1831	0.82
dexamethasone, dexamethasone sodium phosphate	361	44151	0.82
pemetrexed	233	28577	0.82
busulfan	258	31645	0.82
budesonide, formoterol fumarate dihydrate	170	20938	0.81
corticosteroid nos	12	1486	0.81
duloxetine hydrochloride	59	7327	0.81
no ingredients/substances	52	6459	0.81
tofacitinib	582	72317	0.80
asparaginase	213	26547	0.80
osimertinib	35	4389	0.80

ponatinib, ponatinib hydrochloride	115	14520	0.79
parathyroid hormone	36	4624	0.78
atezolizumab	24	3122	0.77
hydroxychloroquine sulfate	11	1445	0.76
minocycline	36	4821	0.75
lamivudine	152	20434	0.74
daratumumab	145	19560	0.74
thalidomide	229	30900	0.74
degarelix, degarelix acetate	12	1621	0.74
phenytoin, phenytoin sodium	70	9500	0.74
budesonide, budesonide, micronised	82	11133	0.74
deferasirox	347	47210	0.74
hydrocortisone, hydrocortisone sodium succinate	104	14165	0.73
imatinib, imatinib mesilate	86	11727	0.73
bortezomib	101	13773	0.73
pazopanib	117	16209	0.72
miglustat	12	1664	0.72
aprepitant, fosaprepitant dimeglumine	30	4185	0.72
nilotinib	280	39276	0.71
leflunomide	3003	424003	0.71
doxorubicin hydrochloride	203	28741	0.71
atorvastatin calcium	20	2856	0.70
sorafenib	28	4024	0.70
sacituzumab govitecan	59	8524	0.69
cyclophosphamide	116	16792	0.69
sitagliptin, sitagliptin phosphate, sitagliptin phosphate monohydrate	302	43774	0.69
ibrutinib	50	7274	0.69
betamethasone dipropionate, betamethasone sodium phosphate	18	2633	0.68
ruxolitinib	370	54131	0.68
sunitinib malate	30	4396	0.68
azacitidine	75	11097	0.68
brivudine	17	2531	0.67
venetoclax	122	18211	0.67
azathioprine	192	28784	0.67
clobetasol propionate	29	4358	0.67
interferon alfa-2a	11	1654	0.67
octreotide, octreotide acetate	178	26802	0.66
atazanavir	66	9965	0.66
bosutinib	96	14549	0.66
vincristine sulfate	38	5786	0.66
etravirine	18	2748	0.66
avapritinib	172	26331	0.65
pomalidomide	389	59838	0.65
brimonidine, brimonidine tartrate	10	1552	0.64
brentuximab vedotin	22	3415	0.64
interferon alfa-2b	12	1872	0.64
valsartan, hydrochlorothiazide	141	22008	0.64
tacrolimus	19	2979	0.64
secukinumab	509	80668	0.63
epirubicin hydrochloride	30	4757	0.63
irinotecan, irinotecan hydrochloride, irinotecan hydrochloride trihydrate	82	13038	0.63
olaparib	176	28092	0.63

pazopanib, pazopanib hydrochloride	227	36394	0.62
epoetin alfa	127	20438	0.62
pralsetinib	10	1610	0.62
abacavir	92	14823	0.62
lenalidomide	69	11144	0.62
mercaptopurine	47	7677	0.61
maraviroc	16	2615	0.61
amlodipine	12	1971	0.61
metformin hydrochloride, sitagliptin, metformin hydrochloride, sitagliptin phosphate, metformin hydrochloride, sitagliptin phosphate monohydrate	160	26311	0.61
somatropin, somatropin, metacresol	15	2468	0.61
beclometasone dipropionate	71	11718	0.61
dexamethasone	104	17204	0.60
zidovudine, lamivudine	118	19578	0.60
pazopanib hydrochloride	60	9970	0.60
medroxyprogesterone acetate, estrogens conjugated	29	4833	0.60
sterile diluent	11	1835	0.60
rituximab	335	56150	0.60
interferon alfa 2b (genetical recombination), interferon alfa-2b recombinant	46	7779	0.59
eribulin	125	21153	0.59
cyclophosphamide, cyclophosphamide monohydrate	59	10015	0.59
fluticasone propionate, salmeterol	18	3059	0.59
osimertinib, osimertinib mesilate	185	31529	0.59
daptomycin	150	25660	0.58
entecavir, entecavir monohydrate	100	17141	0.58
metamizole sodium monohydrate	34	5828	0.58
bevacizumab	16	2781	0.58
gadoversetamide	347	60458	0.57
octreotide acetate	208	36275	0.57
chlorambucil	24	4195	0.57
ciclosporin	13	2279	0.57
sirolimus	839	147941	0.57
cisplatin	63	11120	0.57
trastuzumab	65	11571	0.56
temsirolimus	134	23936	0.56
estradiol, estradiol hemihydrate	48	8622	0.56
golimumab	84	15156	0.55
tivozanib	409	74225	0.55
apalutamide	10	1822	0.55
upadacitinib	80	14584	0.55
fluticasone propionate, salmeterol xinafoate	160	29305	0.55
fluticasone propionate, salmeterol, fluticasone propionate, salmeterol xinafoate	202	37086	0.54
carfilzomib	90	16599	0.54
topotecan, topotecan hydrochloride	108	19921	0.54
adalimumab	23	4246	0.54
lutetium (177lu) oxodotreotide	1884	350003	0.54
pemetrexed, pemetrexed disodium hemipentahydrate	31	5779	0.54
omeprazole	38	7084	0.54
metoprolol succinate	12	2242	0.54
tisagenlecleucel	14	2627	0.53
trametinib	102	19198	0.53
	171	32567	0.53

esomeprazole magnesium	17	3252	0.52
budesonide, formoterol fumarate dihydrate, formoterol fumarate, budesonide	217	41712	0.52
acetylsalicylic acid, acetylsalicylic acid ph. eur., aspirin bp	44	8554	0.51
eculizumab	229	44565	0.51
mycophenolate mofetil	336	65854	0.51
basiliximab	32	6305	0.51
sorafenib, sorafenib tosilate	383	75546	0.51
ciprofloxacin, ciprofloxacin hydrochloride, ciprofloxacin hydrochloride monohydrate, ciprofloxacin lactate	21	4153	0.51
iron	30	6027	0.50
tocilizumab	305	61942	0.49
caspofungin, caspofungin acetate	55	11191	0.49
vandetanib	17	3477	0.49
amoxicillin trihydrate, clavulanic acid, amoxicillin, clavulanic acid	16	3276	0.49
atorvastatin	50	10276	0.49
flutamide	15	3097	0.48
abacavir, lamivudine, dolutegravir	31	6427	0.48
atorvastatin, atorvastatin calcium, atorvastatin calcium trihydrate	59	12237	0.48
sodium oxybate	52	10790	0.48
hydrochlorothiazide, telmisartan	30	6230	0.48
decitabine	12	2501	0.48
zonisamide	14	2918	0.48
sunitinib, sunitinib malate	933	195136	0.48
articaine hydrochloride, epinephrine	12	2526	0.48
insulin human, insulin human, insulin injection soluble	19	4014	0.47
pertuzumab	34	7190	0.47
cemiplimab	11	2330	0.47
semaglutide	69	14621	0.47
febuxostat	53	11231	0.47
insulin human, insulin human (rdna), insulin human isophane, insulin human isophane (rdna)	12	2560	0.47
cefalexin, cefalexin monohydrate	21	4491	0.47
axitinib	167	35761	0.47
dabrafenib	43	9208	0.47
phenobarbital, phenobarbital sodium	42	9027	0.47
cladribine	59	12690	0.46
mometasone furoate, mometasone furoate monohydrate	14	3044	0.46
n/a - n/a - n/a	14	3050	0.46
dinutuximab beta	10	2190	0.46
betamethasone	29	6425	0.45
darbepoetin alfa	224	49728	0.45
glucagon, glucagon hydrochloride	16	3554	0.45
acetylsalicylic acid, aspirin bp	44	9856	0.45
galsulfase	44	9924	0.44
interferon alfa-2a, recombinant human interferon-alfa-2a	12	2718	0.44
benralizumab	123	27918	0.44
atenolol, atenolol hydrochloride, atenolol ph. eur.	17	3867	0.44
valsartan, amlodipine	28	6414	0.44
interferon beta-1a	20	4634	0.43
ascorbic acid, calcium glubionate, calcium carbonate, calcium, calcium glubionate, calcium carbonate, colecalciferol, calcium	16	3731	0.43
voclosporin	10	2371	0.42
exenatide	275	65380	0.42

amlodipine besilate	36	8573	0.42
nevirapine	31	7542	0.41
ganciclovir	45	10965	0.41
abacavir sulfate, lamivudine	52	12705	0.41
finasteride	162	39868	0.41
ezetimibe	12	2959	0.41
metoprolol, metoprolol tartrate	14	3454	0.41
valsartan, amlodipine, valsartan, amlodipine besilate	91	22753	0.40
valsartan, amlodipine, hydrochlorothiazide, valsartan, hydrochlorothiazide, amlodipine besilate	29	7263	0.40
carbamazepine, carbamazepine (ph. eur.)	59	14787	0.40
amifampridine	43	10789	0.40
testosterone	138	34652	0.40
tacrolimus, tacrolimus monohydrate	32	8039	0.40
fluticasone furoate, vilanterol trifenate	47	11827	0.40
amoxicillin, amoxicillin sodium, amoxicillin trihydrate	12	3039	0.39
roflumilast	15	3801	0.39
ustekinumab	294	75005	0.39
duloxetine, duloxetine hydrochloride	631	161772	0.39
ipratropium bromide, salbutamol, salbutamol sulfate, ipratropium bromide, salbutamol sulfate, ipratropium bromide monohydrate, salbutamol, ipratropium bromide monohydrate	30	7694	0.39
pregabalin	236	61183	0.39
ceftriaxone, ceftriaxone sodium	20	5276	0.38
valsartan	141	37424	0.38
belimumab	140	37217	0.38
buprenorphine, naloxone	74	19703	0.38
vinorelbine, vinorelbine tartrate	28	7478	0.37
ciprofloxacin, ciprofloxacin hydrochloride, ciprofloxacin hydrochloride monohydrate	14	3799	0.37
trabectedin	14	3807	0.37
metamizole, metamizole sodium, metamizole sodium monohydrate	12	3295	0.36
oxybutynin, oxybutynin hydrochloride	21	5818	0.36
obinutuzumab	49	13579	0.36
clomipramine hydrochloride	13	3611	0.36
topotecan	11	3062	0.36
aminosalicylic acid	99	27738	0.36
lamotrigine	58	16271	0.36
voriconazole	172	48278	0.36
fluticasone propionate	65	18338	0.35
phenytoin sodium	13	3675	0.35
hydrocodone bitartrate, paracetamol	12	3409	0.35
acicabtagene ciloleucel	51	14524	0.35
insulin human, insulin human (rdna), insulin isophane	11	3146	0.35
lovastatin	14	4063	0.34
peginterferon alfa-2a	647	188216	0.34
ixazomib, ixazomib citrate	26	7603	0.34
carbamazepine	63	18434	0.34
risankizumab	26	7615	0.34
isavuconazonium sulfate	10	2969	0.34
pegaspargase	28	8323	0.34
amlodipine, amlodipine besilate	37	11015	0.34
agalsidase beta	14	4186	0.33

insulin lispro	358	107519	0.33
pantoprazole, pantoprazole sodium sesquihydrate	69	21011	0.33
fluorouracil	103	31455	0.33
atazanavir sulfate	21	6442	0.33
budesonide	305	94032	0.32
fampridine	104	32178	0.32
gadodiamide, gadodiamide hydrate	12	3715	0.32
certolizumab pegol	397	123179	0.32
posaconazole	38	11919	0.32
colchicine	32	10103	0.32
rosuvastatin, rosuvastatin calcium	122	38623	0.32
cabergoline	22	7005	0.31
rucaparib	38	12249	0.31
sodium valproate, valproic acid, sodium valproate	15	4863	0.31
sulfasalazine	49	15898	0.31
regorafenib	117	38009	0.31
perindopril, perindopril tert-butylamine	11	3576	0.31
phenytoin	34	11062	0.31
mitomycin	12	3907	0.31
lenvatinib	44	14344	0.31
levodopa	18	5873	0.31
all other therapeutic products	11	3608	0.30
aciclovir, aciclovir sodium	11	3646	0.30
aclidinium bromide	41	13632	0.30
pembrolizumab	432	143787	0.30
irbesartan	90	30004	0.30
levofloxacin, levofloxacin anhydrous	47	15742	0.30
omalizumab	324	108605	0.30
benserazide hydrochloride, levodopa, benserazide, levodopa	37	12403	0.30
vedolizumab	110	37124	0.30
anti-t lymphocyte immunoglobulin for human use, rabbit, antithymocyte immunoglobulin, rabbit anti-human thymocyte immunoglobulin	11	3717	0.30
ethambutol, ethambutol hydrochloride	30	10146	0.30
ambrisentan	19	6480	0.29
lisinopril, lisinopril dihydrate	60	20581	0.29
pramipexole dihydrochloride monohydrate	25	8586	0.29
gabapentin	156	53757	0.29
umeclidinium bromide, fluticasone furoate, vilanterol	79	27299	0.29
ciclesonide	16	5566	0.29
sodium valproate	63	22061	0.29
insulin lispro, insulin lispro, insulin isophane lispro	41	14421	0.28
hydrochlorothiazide, irbesartan	50	17593	0.28
bisoprolol, bisoprolol fumarate, bisoprolol hemifumarate	18	6384	0.28
aliskiren, aliskiren hemifumarate	27	9600	0.28
fluticasone furoate, vilanterol	34	12112	0.28
human immunoglobulin g, human normal immunoglobulin	65	23175	0.28
guselkumab	47	17019	0.28
carbidopa, levodopa	14	5101	0.27
vemurafenib	30	10952	0.27
insulin human, insulin human (rdna), insulin human isophane (rdna)	10	3662	0.27
peginterferon beta-1a	41	15053	0.27
ledipasvir, sofosbuvir	54	20028	0.27

delamanid	18	6724	0.27
insulin human	61	22818	0.27
nusinersen	36	13583	0.27
thiamazole	34	12861	0.26
alemtuzumab	126	47781	0.26
apixaban	586	222399	0.26
topiramate	86	32673	0.26
estradiol hemihydrate	30	11437	0.26
cetuximab	23	8792	0.26
crizotinib	40	15483	0.26
bromocriptine, bromocriptine mesilate, bromocriptine mesilate ph. eur.	10	3900	0.26
metamizole magnesium	10	3901	0.26
tegaserod maleate	26	10161	0.26
clobazam	25	10021	0.25
nivolumab	98	39362	0.25
ribavirin	77	30962	0.25
aprepitant	34	13689	0.25
allopurinol	46	18636	0.25
peginterferon alfa-2b	228	93936	0.24
amikacin	37	15358	0.24
estrogens conjugated, estrone sodium sulfate, equilin sulfate sodium	11	4624	0.24
ipilimumab	67	28430	0.24
acetazolamide	13	5530	0.24
spironolactone	33	14068	0.23
esomeprazole	29	12432	0.23
infliximab	55	23864	0.23
insulin detemir	70	30852	0.23
not available	151	66985	0.23
bisoprolol fumarate	10	4459	0.22
recombinant varicella zoster virus glycoprotein e, stimulon, monophosphoryl lipid a	31	13832	0.22
ofatumumab	31	13858	0.22
gadobenate dimeglumine, gadobenic acid	24	10761	0.22
avelumab	13	5869	0.22
verapamil hydrochloride	10	4518	0.22
fesoterodine, fesoterodine fumarate	40	18115	0.22
saxagliptin, saxagliptin hydrochloride	10	4531	0.22
yellow fever vaccine (live), yellow fever virus strain 17d-204 (live, attenuated)	12	5452	0.22
anhydrous cyclophosphamide, cyclophosphamide, cyclophosphamide monohydrate	62	28308	0.22
paracetamol	11	5025	0.22
buprenorphine, naloxone, naloxone hydrochloride dihydrate, buprenorphine hydrochloride	87	39745	0.22
sitagliptin	13	5973	0.22
candesartan cilexetil	11	5074	0.22
n/a - n/a - intramuscular	13	6100	0.21
methoxy polyethylene glycol-epoetin beta	17	7983	0.21
apremilast	35	16441	0.21
clomipramine, clomipramine hydrochloride, clomipramine hydrochloride bp	19	8930	0.21
mometasone furoate	15	7098	0.21
indapamide, indapamide hemihydrate	12	5691	0.21
rosuvastatin	13	6181	0.21
fluoxetine, fluoxetine hydrochloride	72	34317	0.21

mepolizumab	202	96388	0.21
octocog alfa	20	9600	0.21
dabigatran etexilate, dabigatran etexilate mesilate	11	5299	0.21
metamizole sodium, metamizole sodium monohydrate	16	7711	0.21
trifluridine, tipiracil	28	13649	0.21
insulin glargine	409	200643	0.20
salbutamol sulfate	20	9837	0.20
morphine, morphine hydrochloride	18	8865	0.20
sodium valproate, valproic acid	39	19216	0.20
meloxicam	15	7394	0.20
telaprevir	49	24234	0.20
metformin, metformin hydrochloride, metformin hydrochloride bp	42	20781	0.20
baricitinib	12	5944	0.20
hydrochlorothiazide	37	18527	0.20
valproate semisodium	39	19588	0.20
sofosbuvir	24	12076	0.20
telmisartan	63	31801	0.20
diltiazem, diltiazem hydrochloride	16	8077	0.20
pioglitazone, pioglitazone hydrochloride	14	7160	0.20
vildagliptin	38	19500	0.19
levetiracetam	301	154561	0.19
botulinum toxin type a	17	8781	0.19
cannabidiol	26	13432	0.19
interferon beta-1b, recombinant interferon beta-1b	26	13465	0.19
covid-19 vaccine astrazeneca (chadox1 ncov-19)	4127	2141014	0.19
recombinant varicella zoster virus glycoprotein e, recombinant varicella zoster virus glycoprotein e, stimulon, monophosphoryl lipid a	78	40495	0.19
oxcarbazepine	49	25508	0.19
azithromycin, azithromycin dihydrate, azithromycin hydrate	12	6287	0.19
acetylsalicylic acid	88	46155	0.19
bupivacaine	32	16797	0.19
c1 esterase inhibitor (human)	10	5320	0.19
fluoxetine hydrochloride	11	5867	0.19
daclatasvir	21	11244	0.19
metformin hydrochloride, vildagliptin	34	18350	0.19
insulin glulisine	69	37258	0.19
glycopyrronium bromide	12	6525	0.18
dutasteride	14	7638	0.18
empagliflozin	170	92799	0.18
levofloxacin, levofloxacin hemihydrate	28	15424	0.18
ibuprofen, ibuprofen sodium	76	42097	0.18
insulin human, insulin human (rdna)	20	11111	0.18
clopidogrel hydrogen sulfate	66	36669	0.18
emicizumab	12	6705	0.18
sodium valproate, valproic acid, sodium, valproic acid, sodium valproate	37	20778	0.18
patiomer, patiomer sorbitex calcium	18	10148	0.18
enoxaparin, enoxaparin sodium	42	23757	0.18
encorafenib	30	16980	0.18
ofloxacin	10	5664	0.18
clopidogrel	21	11916	0.18
lithium	23	13206	0.17
sildenafil, sildenafil citrate	98	56485	0.17

buprenorphine	110	63466	0.17
edoxaban	10	5830	0.17
teriflunomide	118	68931	0.17
micronised spironolactone, potassium canrenoate, spironolactone, spironolactone bp	10	5890	0.17
insulin degludec	14	8277	0.17
bupropion hydrochloride	58	34348	0.17
olmesartan medoxomil	32	19153	0.17
venlafaxine hydrochloride	54	32435	0.17
imiquimod	16	9668	0.17
testosterone undecanoate	10	6094	0.16
lisinopril, lisinopril anhydrous, lisinopril dihydrate	12	7428	0.16
olmesartan medoxomil, hydrochlorothiazide	59	36597	0.16
alprazolam	67	41664	0.16
epoprostenol, epoprostenol sodium	42	26260	0.16
moxifloxacin	10	6265	0.16
tezacaftor, elexacaftor, ivacaftor	23	14424	0.16
diltiazem hydrochloride	14	8790	0.16
gadopentetate dimeglumine, gadopentetic acid	15	9438	0.16
furosemide	44	28433	0.15
elasomeran	450	292799	0.15
amoxicillin, amoxicillin trihydrate	18	11792	0.15
lacosamide	46	30162	0.15
clarithromycin	64	42452	0.15
recombinant varicella zoster virus glycoprotein e, stimulon, 3-o-desacyl-4'-monophosphoryl lipid a	13	8633	0.15
mesalazine	43	28616	0.15
solifenacin, solifenacin succinate	13	8696	0.15
enalapril maleate	24	16183	0.15
gliclazide	11	7421	0.15
macitentan	86	59127	0.15
dulaglutide	53	36997	0.14
human normal immunoglobulin, immunoglobulin g	10	6985	0.14
levofloxacin	118	82592	0.14
human normal immunoglobulin (iv)	12	8401	0.14
tozinameran	5630	3976668	0.14
bumetanide	11	7779	0.14
bromazepam	37	26454	0.14
baclofen	18	12910	0.14
human normal immunoglobulin	76	54540	0.14
dapagliflozin	49	35706	0.14
acrivastine, diphenhydramine, diphenhydramine hydrochloride, diphenhydramine hydrochloride, zinc acetate	18	13295	0.14
paroxetine hydrochloride	24	17827	0.13
amiodarone, amiodarone hydrochloride	65	48964	0.13
ereumab	84	64405	0.13
morphine sulfate	24	18421	0.13
desloratadine	28	21530	0.13
fluvastatin sodium	15	11556	0.13
aripiprazole	120	93002	0.13
nintedanib	32	24836	0.13
sildenafil	12	9446	0.13

tadalafil	26	20485	0.13
carvedilol	29	23019	0.13
glibenclamide	13	10328	0.13
fentanyl, fentanyl citrate	74	59221	0.12
memantine hydrochloride	14	11286	0.12
enoxaparin sodium	52	42150	0.12
warfarin sodium	48	39730	0.12
desvenlafaxine, desvenlafaxine succinate monohydrate	16	13513	0.12
clonazepam	20	17028	0.12
tramadol, tramadol hydrochloride	19	16224	0.12
metformin hydrochloride	35	29937	0.12
mirabegron	30	25676	0.12
sacubitril valsartan sodium hydrate, valsartan, sacubitril	30	25978	0.12
pirfenidone	48	41650	0.12
clindamycin, clindamycin hydrochloride, clindamycin phosphate	16	14112	0.11
aluminium phosphate, hepatitis a virus (inactivated) adsorbed on aluminium hydroxide hydrated produced on human diploid (mrc-5) cells, hepatitis b surface antigen (rdna) adsorbed on aluminium phosphate	20	17643	0.11
melatonin	18	15923	0.11
varenicline	10	8987	0.11
salbutamol, salbutamol sulfate	12	10849	0.11
valproic acid	12	10869	0.11
rifampicin	10	9076	0.11
terbinafine, terbinafine hydrochloride	37	33623	0.11
clopidogrel, clopidogrel hydrogen sulfate	99	90817	0.11
liraglutide	58	53769	0.11
lithium carbonate	21	19499	0.11
bosentan	44	41225	0.11
digoxin	42	39381	0.11
riociguat	11	10442	0.11
rosiglitazone maleate	72	68824	0.10
amitriptyline, amitriptyline hydrochloride	40	38295	0.10
ulipristal acetate	18	17404	0.10
bupropion, bupropion hydrochloride	30	29140	0.10
amitriptyline hydrochloride	21	20412	0.10
clopidogrel, clopidogrel besilate	53	51664	0.10
edoxaban, edoxaban tosylate	12	11951	0.10
epinephrine	11	11098	0.10
umeclidinium bromide	10	10091	0.10
warfarin, warfarin sodium	16	16194	0.10
diazepam	15	15260	0.10
sofosbuvir, velpatasvir	10	10187	0.10
glimepiride	11	11349	0.10
covid-19 mrna vaccine moderna (cx-024414)	1148	1190073	0.10
aflibercept	27	28209	0.10
vortioxetine	32	33499	0.10
mirtazapine	33	34638	0.10
bedaquiline	16	17013	0.09
amlodipine, amlodipine besilate, amlodipine maleate, amlodipine mesilate	18	19372	0.09
entacapone	12	13056	0.09
amisulpride	15	16654	0.09
desogestrel	17	18996	0.09

codeine	10	11189	0.09
insulin aspart	46	52829	0.09
cobimetinib	10	11636	0.09
montelukast, montelukast sodium	22	25776	0.09
eplerenone	16	18833	0.08
olanzapine	147	173814	0.08
rivastigmine	10	12017	0.08
amiodarone hydrochloride	30	36920	0.08
valaciclovir, valaciclovir hydrochloride	10	12581	0.08
umeclidinium bromide, vilanterol, umeclidinium bromide, vilanterol trifenate, umeclidinium, vilanterol	11	13893	0.08
vancomycin, vancomycin hydrochloride	14	18147	0.08
venlafaxine, venlafaxine hydrochloride	22	28927	0.08
varenicline, varenicline tartrate	80	105191	0.08
moxifloxacin, moxifloxacin hydrochloride	30	39560	0.08
human normal immunoglobulin, human normal immunoglobulin (iv)	13	17176	0.08
ticagrelor	35	49956	0.07
acenocoumarol	21	30315	0.07
amoxicillin sodium, clavulanic acid, amoxicillin trihydrate, clavulanic acid, amoxicillin trihydrate, potassium clavulanate, amoxicillin, clavulanic acid, amoxicillin, potassium clavulanate	38	56198	0.07
clozapine	10	15522	0.06
rivaroxaban	13	20282	0.06
valsartan, sacubitril	23	36152	0.06
abacavir sulfate	22	35892	0.06
nicotine	10	16481	0.06
amoxicillin, clavulanic acid	18	30185	0.06
fluticasone furoate	21	36695	0.06
measles, mumps and rubella vaccine (live)	13	23175	0.06
midazolam, midazolam hydrochloride	12	21502	0.06
paroxetine, paroxetine hydrochloride	18	35279	0.05
oseltamivir, oseltamivir phosphate	16	31458	0.05
ranitidine, ranitidine hydrochloride	111	243727	0.05
furosemide, furosemide sodium	13	28651	0.05
oxaliplatin	25	56421	0.04
lurasidone, lurasidone hydrochloride	12	27463	0.04
tramadol hydrochloride	12	29479	0.04
esomeprazole, ranitidine, ranitidine hydrochloride	31	90091	0.03
ranitidine hydrochloride	11	38693	0.03