

2.3 ANIMALS PURCHASED FOR RESEARCH

Accounting policies

The record of animals purchased for research comprises the number of animals purchased for all research undertaken by Novo Nordisk either in-house or by external contractors. The number of animals purchased is based on internal registration of purchased animals and yearly reports from external contractors.

ANIMALS PURCHASED

Number	2017	2016	2015
Mice, rats and other rodents	65,869	76,049	65,335
Pigs	835	891	939
Rabbits	493	347	443
Dogs	63	227	214
Non-human primates	241	406	302
Other vertebrates	122	0	7
Total animals purchased	67,623	77,920	67,240

The number of animals purchased for research in 2017 decreased by 13% compared with 2016 and reflect the changes in stages of the different research projects. In all, 97% of the animals purchased were rodents. The variation in the purchase of large animals from year to year reflects the different development phases the research projects have reached.

2.4 NEW PATENT FAMILIES (FIRST FILINGS)

Accounting policies

The number of new patent families (first filings) is based on new patent applications that were filed during the year.

Development

A total of 65 new patent families were established in 2017, a decrease of 12% compared with filing activity in 2016, when 74 patent families were established.

The patent expiry dates for the product portfolio are shown in the table below. The dates provided are for expiry in the US, Germany, China and Japan of patents on the active ingredient, unless otherwise indicated, and include extensions of patent term (including for paediatric extension, where applicable). For several products, in addition to the compound patent, Novo Nordisk holds other patents on manufacturing processes, formulations or uses that may be relevant for exclusivity beyond the expiration of the active ingredient patent. Furthermore, regulatory data protection may apply.

2.4 MARKETED PRODUCTS IN KEY MARKETS (ACTIVE INGREDIENTS)

	US	Germany	China	Japan
<i>Diabetes care:</i>				
NovoRapid® (NovoLog®)	Expired	Expired	Expired	Expired
NovoMix® 30 (NovoLog® Mix 70/30)	Expired	Expired	Expired	Expired
NovoNorm® (Prandin®)	Expired	Expired	Expired	Expired
Levemir®	2019	2019	Expired	2019
Victoza®	2022	2022	Expired	2022
Tresiba®	2029	2028	2024	2027
Ryzodeg®	2029	2028	2024	2024 ¹
Xultophy®	2029	2028	2024	2024 ¹
Fiasp®	(2030) ²	(2030) ²	(2030) ²	(2030) ²
Ozempic®	2031 ³	2031 ³	2026	2031 ³
<i>Obesity:</i>				
Saxenda®	2022	2022	Expired	Expired ⁷
<i>Biopharmaceuticals:</i>				
Norditropin® (Norditropin® SimpleXx®)	Expired	Expired	Expired	Expired
NovoSeven®	Expired ⁴	Expired ⁴	Expired ⁴	Expired ⁴
NovoEight®	N/A	N/A	N/A	N/A
NovoThirteen® (TRETEN®)	2021	Expired	N/A	Expired
Vagifem® 10 mcg	2022 ^{5,6}	2021 ⁵	N/A	2021 ⁵
Refixia® (REBINYN®)	2028 ³	2027 ³	2022	2027 ³

1. Patent term extension until 2027 may apply.

2. Protected by formulation patent, which expires in 2030; compound patent has expired.

3. Current estimates.

4. Room temperature-stable formulation patent until 2023 in China, Germany and Japan and until 2025 in the US.

5. Patent covers low-dose treatment regimen.

6. Licensed to several generic manufacturers from October 2016.

7. Protected by formulation patent, which expires in 2024.