

EU Statistical Data of all uses of animals

Year: 2019

Member State: Denmark

Part 1: Numbers of animals used for the first time for research, testing, routine production and educational (including training) purposes

Numbers of animals used for the first time by species

Animal Species	Number of animals	Percentage
Mice	157,301	64.34%
Rats	36,407	14.89%
Guinea-Pigs	3,905	1.60%
Hamsters (Syrian)	6	0.00%
Hamsters (Chinese)		
Mongolian gerbil		
Other rodents	23	0.01%
Rabbits	2,297	0.94%
Cats	1	0.00%
Dogs	365	0.15%
Ferrets		
Other carnivores	3,603	1.47%
Horses, donkeys and cross-breeds	47	0.02%
Pigs	8,478	3.47%
Goats	51	0.02%
Sheep	18	0.01%
Cattle	980	0.40%
Prosimians		
Marmoset and tamarins		
Cynomolgus monkey		
Rhesus monkey		
Vervets (Chlorocebus spp.)		
Baboons		
Squirrel monkey		
Other species of Old World Monkeys (Cercopithecoidea)		
Other species of New World Monkeys (Ceboidea)		
Apes		
Other mammals	23	0.01%
Domestic fowl	1,230	0.50%
Other birds	439	0.18%
Reptiles	45	0.02%
Rana	448	0.18%
Xenopus	91	0.04%
Other amphibians	59	0.02%
Zebra fish	3,935	1.61%
Other fish	24,740	10.12%
Cephalopods		
Total uses	244,492	100.00%

Place of birth of animals other than non-human primate

Place of Birth	Number of animals	Percentage
Animals born in the EU at a registered breeder	197,325	80.71%
Animals born in the EU but not at a registered breeder	39,643	16.21%
Animals born in rest of Europe	1,283	0.52%
Animals born in rest of world	6,241	2.55%
Total uses	244,492	100.00%

Source of non-human primates

NHP Source (origin)	Number of animals	Percentage
Animals born at a registered breeder within EU		
Animals born in rest of Europe		
Animals born in Asia		
Animals born in America		
Animals born in Africa		
Animals born elsewhere		
Total uses		

Generation of non-human primates

NHP Generation	Number of animals	Percentage
F0		
F1		
F2 or greater		
Self-sustaining colony		
Total uses		

EU Statistical Data of all uses of animals

Part 2: Numbers of all uses of animals for research, testing, routine production and educational (including training) purposes

First use versus reuses

Animal Species	First uses	Reuses	Percentage of reuses	Total uses
Mice	157,301	2,676	1.67%	159,977
Rats	36,407	1,319	3.50%	37,726
Guinea-Pigs	3,905	8	0.20%	3,913
Hamsters (Syrian)	6	0	0.00%	6
Hamsters (Chinese)				
Mongolian gerbil				
Other rodents	23	10	30.30%	33
Rabbits	2,297	7	0.30%	2,304
Cats	1	0	0.00%	1
Dogs	365	14	3.69%	379
Ferrets				
Other carnivores	3,603	240	6.25%	3,843
Horses, donkeys and cross-breeds	47	4	7.84%	51
Pigs	8,478	165	1.91%	8,643
Goats	51	0	0.00%	51
Sheep	18	0	0.00%	18
Cattle	980	205	17.30%	1,185
Prosimians				
Marmoset and tamarins				
Cynomolgus monkey				
Rhesus monkey				
Vervets (Chlorocebus spp.)				
Baboons				
Squirrel monkey				
Other species of Old World Monkeys (Cercopithecoidea)				
Other species of New World Monkeys (Ceboidea)				
Apes				
Other mammals	23	19	45.24%	42
Domestic fowl	1,230	39	3.07%	1,269
Other birds	439	0	0.00%	439
Reptiles	45	8	15.09%	53
Rana	448	4	0.88%	452
Xenopus	91	300	76.73%	391
Other amphibians	59	13	18.06%	72
Zebra fish	3,935	0	0.00%	3,935
Other fish	24,740	2	0.01%	24,742
Cephalopods				
Total uses	244,492	5,033	2.02%	249,525

EU Statistical Data of all uses of animals

Uses of animals in research, testing, routine production and education (including training) by main categories of scientific purposes

Purpose Category	Number of uses	Percentage
Basic Research	91,539	36.69%
Translational and applied research	127,123	50.95%
Regulatory use and Routine production	20,841	8.35%
Protection of the natural environment in the interests of the health or welfare of human beings or animals	4,930	1.98%
Preservation of species	948	0.38%
Higher education or training for the acquisition, maintenance or improvement of vocational skills	4,144	1.66%
Forensic enquiries		
Total uses	249,525	100.00%

Basic research related uses

Basic Research	Number of uses	Percentage
Oncology	18,505	20.22%
Cardiovascular Blood and Lymphatic System	3,719	4.06%
Nervous System	17,260	18.86%
Respiratory System	279	0.30%
Gastrointestinal System including Liver	6,345	6.93%
Musculoskeletal System	1,447	1.58%
Immune System	21,078	23.03%
Urogenital/Reproductive System	1,631	1.78%
Sensory Organs (skin, eyes and ears)	386	0.42%
Endocrine System/Metabolism	12,212	13.34%
Multisystemic	2,309	2.52%
Ethology / Animal Behaviour /Animal Biology	3,669	4.01%
Other basic research	2,699	2.95%
Total uses	91,539	100.00%

Translational and applied research related uses

Translational and applied research	Number of uses	Percentage
Human Cancer	10,162	7.99%
Human Infectious Disorders	9,524	7.49%
Human Cardiovascular Disorders	4,897	3.85%
Human Nervous and Mental Disorders	25,481	20.04%
Human Respiratory Disorders	324	0.25%
Human Gastrointestinal Disorders including Liver	3,081	2.42%
Human Musculoskeletal Disorders	736	0.58%
Human Immune Disorders	3,583	2.82%
Human Urogenital/Reproductive Disorders	2,531	1.99%
Human Sensory Organ Disorders (skin, eyes and ears)	288	0.23%
Human Endocrine/Metabolism Disorders	40,466	31.83%
Other Human Disorders	2,641	2.08%
Animal Diseases and Disorders	20,308	15.98%
Animal Welfare	2,203	1.73%
Diagnosis of diseases	772	0.61%
Plant diseases		
Non-regulatory toxicology and ecotoxicology	126	0.10%
Total uses	127,123	100.00%

EU Statistical Data of all uses of animals

Regulatory uses and Routine production

Regulatory uses and Routine production	Number of uses	Percentage
Quality control (incl batch safety and potency testing)	13,681	65.64%
Other efficacy and tolerance testing	1,375	6.60%
Toxicity and other safety testing including pharmacology	5,064	24.30%
Routine production	721	3.46%
Total uses	20,841	100.00%

Regulatory uses - Quality control (including batch safety and potency testing)

Regulatory uses - Quality control (including batch safety and potency testing)	Number of uses	Percentage
Batch safety testing	2,470	18.05%
Pyrogenicity testing		
Batch potency testing	10,272	75.08%
Other quality controls	939	6.86%
Total uses	13,681	100.00%

Regulatory uses - Toxicity and other safety testing including pharmacology

Regulatory uses - Toxicity and other safety testing including pharmacology	Number of uses	Percentage
Acute and sub-acute	120	2.37%
Skin irritation/corrosion	4	0.08%
Skin sensitisation	74	1.46%
Eye irritation/corrosion		
Repeated dose toxicity	1,612	31.83%
Carcinogenicity		
Genotoxicity	22	0.43%
Reproductive toxicity	35	0.69%
Developmental toxicity		
Neurotoxicity		
Kinetics	510	10.07%
Pharmaco-dynamics (incl safety pharmacology)	1,386	27.37%
Phototoxicity		
Ecotoxicity	1,292	25.51%
Safety testing in food and feed area	9	0.18%
Target animal safety		
Other toxicity/safety testing		
Total uses	5,064	100.00%

Regulatory uses – Toxicity and other safety testing including pharmacology – Acute and sub-acute toxicity testing methods

Regulatory uses – Toxicity and other safety testing including pharmacology – Acute and sub-acute toxicity testing methods	Number of uses	Percentage
LD50, LC50		
Other lethal methods		
Non lethal methods	120	100.00%
Total uses	120	100.00%

Regulatory uses – Toxicity and other safety testing including pharmacology – Repeated dose toxicity

Regulatory uses – Toxicity and other safety testing including pharmacology – Repeated dose toxicity	Number of uses	Percentage
up to 28 days	657	40.76%
29 - 90 days	651	40.38%
> 90 days	304	18.86%
Total uses	1,612	100.00%

EU Statistical Data of all uses of animals

Regulatory uses – Toxicity and other safety testing including pharmacology – Ecotoxicity

Regulatory uses – Toxicity and other safety testing including pharmacology – Ecotoxicity	Number of uses	Percentage
Acute toxicity	182	14.09%
Chronic toxicity	1,110	85.91%
Reproductive ecotoxicity		
Endocrine activity		
Bioaccumulation		
Other ecotoxicity		
Total uses	1,292	100.00%

Regulatory uses by type of legislation

Type of legislation	Number of uses	Percentage
Legislation on medicinal products for human use	19,183	95.34%
Legislation on medicinal products for veterinary use and their residues		
Medical devices legislation	24	0.12%
Industrial chemicals legislation	844	4.19%
Plant protection product legislation		
Biocides legislation		
Food legislation including food contact material	9	0.04%
Feed legislation including legislation for the safety of target animals, workers and environment		
Cosmetics legislation		
Other legislation	60	0.30%
Total uses	20,120	100.00%

Regulatory uses by origin of regulatory requirement

Origine of legislative requirement	Number of uses	Percentage
Legislation satisfying EU requirements	20,116	99.98%
Legislation satisfying national requirements only [within EU]		
Legislation satisfying Non-EU requirements only	4	0.02%
Total uses	20,120	100.00%

Routine production uses by product type

Product type	Number of uses	Percentage
Blood based products	687	95.28%
Monoclonal antibody by mouse ascites method		
Other product types	34	4.72%
Total uses	721	100.00%

Uses of animals in research, testing, routine production and education (including training) by severity

Severity	Number of uses	Percentage
Non-recovery	10,994	4.41%
Mild [up to and including]	121,012	48.50%
Moderate	113,407	45.45%
Severe	4,112	1.65%
Total uses	249,525	100.00%

Uses of animals in research, testing, routine production and education (including training) by genetic status of animals

Genetic Status	Number of uses	Percentage
Not genetically altered	216,774	86.87%
Genetically altered without a harmful phenotype	27,295	10.94%
Genetically altered with a harmful phenotype	5,456	2.19%
Total uses	249,525	100.00%

Part 3: Creation and maintenance of genetically altered animal lines

Part 3.A : Creation of genetically altered animals lines

All uses of animals for the creation of new genetically altered animal lines by species, first uses and reuses

Animal Species	First uses	Reuses	Percentage of reuses	Total uses
Mice	1,679			1,679
Rats	51			51
Guinea-Pigs				
Hamsters (Syrian)				
Hamsters (Chinese)				
Mongolian gerbil				
Other rodents				
Rabbits				
Cats				
Dogs				
Ferrets				
Other carnivores				
Horses, donkeys and cross-breeds				
Pigs				
Goats				
Sheep				
Cattle				
Prosimians				
Marmoset and tamarins				
Cynomolgus monkey				
Rhesus monkey				
Vervets (Chlorocebus spp.)				
Baboons				
Squirrel monkey				
Other species of Old World Monkeys (Cercopithecoidea)				
Other species of New World Monkeys (Ceboidea)				
Apes				
Other mammals				
Domestic fowl				
Other birds				
Reptiles				
Rana				
Xenopus				
Other amphibians				
Zebra fish	722			722
Other fish				
Cephalopods				
Total uses	2,452			2,452

Uses of animals for the creation of new genetically altered animal lines by severity

Severity	Number of uses	Percentage
Non-recovery	37	1.51%
Mild [up to and including]	2,088	85.15%
Moderate	327	13.34%
Severe		
Total uses	2,452	100.00%

Uses of animals for the creation of new genetically altered animal lines by genetic status of the animals

Genetic Status	Number of uses	Percentage
Not genetically altered	1,410	57.50%
Genetically altered without a harmful phenotype	1,042	42.50%
Genetically altered with a harmful phenotype		
Total uses	2,452	100.00%

EU Statistical Data of all uses of animals

Uses of animals for the creation of new genetically altered animal lines by type of basic research purposes

Basic Research	Number of uses	Percentage
Oncology		
Cardiovascular Blood and Lymphatic System	131	5.34%
Nervous System	143	5.83%
Respiratory System		
Gastrointestinal System including Liver	50	2.04%
Musculoskeletal System	37	1.51%
Immune System		
Urogenital/Reproductive System		
Sensory Organs (skin, eyes and ears)		
Endocrine System/Metabolism	184	7.50%
Multisystemic	174	7.10%
Ethology / Animal Behaviour /Animal Biology		
Other basic research	1,733	70.68%
Total uses	2,452	100.00%

Uses of animals for the creation of new genetically altered animal lines by type of translational and applied research purposes

Translational and applied research	Number of uses	Percentage
Human Cancer		
Human Infectious Disorders		
Human Cardiovascular Disorders		
Human Nervous and Mental Disorders		
Human Respiratory Disorders		
Human Gastrointestinal Disorders including Liver		
Human Musculoskeletal Disorders		
Human Immune Disorders		
Human Urogenital/Reproductive Disorders		
Human Sensory Organ Disorders (skin, eyes and ears)		
Human Endocrine/Metabolism Disorders		
Other Human Disorders		
Animal Diseases and Disorders		
Animal Welfare		
Diagnosis of diseases		
Plant diseases		
Non-regulatory toxicology and ecotoxicology		
Total uses		

EU Statistical Data of all uses of animals

Part 3.B : Maintenance of genetically altered animal lines

All uses of animals for the maintenance of established genetically altered animal lines by species

Animal Species	First uses	Reuses	Percentage of reuses	Total uses
Mice	6,043			6,043
Rats				
Guinea-Pigs				
Hamsters (Syrian)				
Hamsters (Chinese)				
Mongolian gerbil				
Other rodents				
Rabbits				
Cats				
Dogs				
Ferrets				
Other carnivores				
Horses, donkeys and cross-breeds				
Pigs				
Goats				
Sheep				
Cattle				
Prosimians				
Marmoset and tamarins				
Cynomolgus monkey				
Rhesus monkey				
Vervets (Chlorocebus spp.)				
Baboons				
Squirrel monkey				
Other species of Old World Monkeys (Cercopithecoidea)				
Other species of New World Monkeys (Ceboidea)				
Apes				
Other mammals				
Domestic fowl				
Other birds				
Reptiles				
Rana				
Xenopus				
Other amphibians				
Zebra fish				
Other fish				
Cephalopods				
Total uses	6,043			6,043

Uses of animals for the maintenance of established genetically altered animal lines by severity

Severity	Number of uses	Percentage
Non-recovery	178	2.95%
Mild [up to and including]	5,855	96.89%
Moderate	4	0.07%
Severe	6	0.10%
Total uses	6,043	100.00%

Uses of animals for the maintenance of established genetically altered animal lines by genetic status of the animals

Genetic Status	Number of uses	Percentage
Not genetically altered	6,039	99.93%
Genetically altered without a harmful phenotype		
Genetically altered with a harmful phenotype	4	0.07%
Total uses	6,043	100.00%