

EU Statistical Data of all uses of animals

Year: 2020

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 | 147,829 | 58.90% |
| Rats | 33,028 | 13.16% |
| Guinea-Pigs | 2,249 | 0.90% |
| Hamsters (Syrian) | 108 | 0.04% |
| Hamsters (Chinese) | | |
| Mongolian gerbil | | |
| Other rodents | | |
| Rabbits | 2,344 | 0.93% |
| Cats | 6 | 0.00% |
| Dogs | 527 | 0.21% |
| Ferrets | | |
| Other carnivores | 5,948 | 2.37% |
| Horses, donkeys and cross-breeds | 11 | 0.00% |
| Pigs | 8,654 | 3.45% |
| Goats | 27 | 0.01% |
| Sheep | 62 | 0.02% |
| Cattle | 451 | 0.18% |
| 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 | 35 | 0.01% |
| Domestic fowl | 621 | 0.25% |
| Other birds | 390 | 0.16% |
| Reptiles | 21 | 0.01% |
| Rana | 792 | 0.32% |
| Xenopus | 390 | 0.16% |
| Other amphibians | 6 | 0.00% |
| Zebra fish | 7,731 | 3.08% |
| Other fish | 39,745 | 15.84% |
| Cephalopods | | |
| Total uses | 250,975 | 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 | 178,352 | 71.06% |
| Animals born in the EU but not at a registered breeder | 66,820 | 26.62% |
| Animals born in rest of Europe | 483 | 0.19% |
| Animals born in rest of world | 5,320 | 2.12% |
| Total uses | 250,975 | 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 | 147,829 | 1,209 | 0.81% | 149,038 |
| Rats | 33,028 | 321 | 0.96% | 33,349 |
| Guinea-Pigs | 2,249 | 0 | 0.00% | 2,249 |
| Hamsters (Syrian) | 108 | 3 | 2.70% | 111 |
| Hamsters (Chinese) | | | | |
| Mongolian gerbil | | | | |
| Other rodents | | | | |
| Rabbits | 2,344 | 0 | 0.00% | 2,344 |
| Cats | 6 | 0 | 0.00% | 6 |
| Dogs | 527 | 62 | 10.53% | 589 |
| Ferrets | | | | |
| Other carnivores | 5,948 | 180 | 2.94% | 6,128 |
| Horses, donkeys and cross-breeds | 11 | 5 | 31.25% | 16 |
| Pigs | 8,654 | 162 | 1.84% | 8,816 |
| Goats | 27 | 0 | 0.00% | 27 |
| Sheep | 62 | 5 | 7.46% | 67 |
| Cattle | 451 | 292 | 39.30% | 743 |
| 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 | 35 | 1 | 2.78% | 36 |
| Domestic fowl | 621 | 0 | 0.00% | 621 |
| Other birds | 390 | 11 | 2.74% | 401 |
| Reptiles | 21 | 3 | 12.50% | 24 |
| Rana | 792 | 0 | 0.00% | 792 |
| Xenopus | 390 | 0 | 0.00% | 390 |
| Other amphibians | 6 | 10 | 62.50% | 16 |
| Zebra fish | 7,731 | 0 | 0.00% | 7,731 |
| Other fish | 39,745 | 36 | 0.09% | 39,781 |
| Cephalopods | | | | |
| Total uses | 250,975 | 2,300 | 0.91% | 253,275 |

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 | 83,090 | 32.81% |
| Translational and applied research | 141,984 | 56.06% |
| Regulatory use and Routine production | 20,426 | 8.06% |
| Protection of the natural environment in the interests of the health or welfare of human beings or animals | 3,031 | 1.20% |
| Preservation of species | 913 | 0.36% |
| Higher education or training for the acquisition, maintenance or improvement of vocational skills | 3,831 | 1.51% |
| Forensic enquiries | | |
| Total uses | 253,275 | 100.00% |

Basic research related uses

| Basic Research | Number of uses | Percentage |
|---|----------------|----------------|
| Oncology | 10,434 | 12.56% |
| Cardiovascular Blood and Lymphatic System | 2,943 | 3.54% |
| Nervous System | 17,459 | 21.01% |
| Respiratory System | 859 | 1.03% |
| Gastrointestinal System including Liver | 7,285 | 8.77% |
| Musculoskeletal System | 1,334 | 1.61% |
| Immune System | 16,942 | 20.39% |
| Urogenital/Reproductive System | 2,396 | 2.88% |
| Sensory Organs (skin, eyes and ears) | 522 | 0.63% |
| Endocrine System/Metabolism | 13,952 | 16.79% |
| Multisystemic | 1,970 | 2.37% |
| Ethology / Animal Behaviour /Animal Biology | 659 | 0.79% |
| Other basic research | 6,335 | 7.62% |
| Total uses | 83,090 | 100.00% |

Translational and applied research related uses

| Translational and applied research | Number of uses | Percentage |
|---|----------------|----------------|
| Human Cancer | 18,838 | 13.27% |
| Human Infectious Disorders | 10,334 | 7.28% |
| Human Cardiovascular Disorders | 4,031 | 2.84% |
| Human Nervous and Mental Disorders | 20,002 | 14.09% |
| Human Respiratory Disorders | 316 | 0.22% |
| Human Gastrointestinal Disorders including Liver | 2,087 | 1.47% |
| Human Musculoskeletal Disorders | 860 | 0.61% |
| Human Immune Disorders | 4,509 | 3.18% |
| Human Urogenital/Reproductive Disorders | 2,263 | 1.59% |
| Human Sensory Organ Disorders (skin, eyes and ears) | 208 | 0.15% |
| Human Endocrine/Metabolism Disorders | 30,931 | 21.78% |
| Other Human Disorders | 1,742 | 1.23% |
| Animal Diseases and Disorders | 35,931 | 25.31% |
| Animal Welfare | 7,222 | 5.09% |
| Diagnosis of diseases | 870 | 0.61% |
| Plant diseases | | |
| Non-regulatory toxicology and ecotoxicology | 1,840 | 1.30% |
| Total uses | 141,984 | 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) | 15,544 | 76.10% |
| Other efficacy and tolerance testing | 1,091 | 5.34% |
| Toxicity and other safety testing including pharmacology | 2,733 | 13.38% |
| Routine production | 1,058 | 5.18% |
| Total uses | 20,426 | 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 | 2,366 | 15.22% |
| Pyrogenicity testing | | |
| Batch potency testing | 13,137 | 84.51% |
| Other quality controls | 41 | 0.26% |
| Total uses | 15,544 | 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 | 26 | 0.95% |
| Skin irritation/corrosion | 3 | 0.11% |
| Skin sensitisation | 32 | 1.17% |
| Eye irritation/corrosion | | |
| Repeated dose toxicity | 1,662 | 60.81% |
| Carcinogenicity | | |
| Genotoxicity | | |
| Reproductive toxicity | | |
| Developmental toxicity | 6 | 0.22% |
| Neurotoxicity | | |
| Kinetics | 253 | 9.26% |
| Pharmaco-dynamics (incl safety pharmacology) | 751 | 27.48% |
| Phototoxicity | | |
| Ecotoxicity | | |
| Safety testing in food and feed area | | |
| Target animal safety | | |
| Other toxicity/safety testing | | |
| Total uses | 2,733 | 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 | 26 | 100.00% |
| Total uses | 26 | 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 | 866 | 52.11% |
| 29 - 90 days | 502 | 30.20% |
| > 90 days | 294 | 17.69% |
| Total uses | 1,662 | 100.00% |

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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 | | |
| Chronic toxicity | | |
| Reproductive ecotoxicity | | |
| Endocrine activity | | |
| Bioaccumulation | | |
| Other ecotoxicity | | |
| Total uses | | |

Regulatory uses by type of legislation

| Type of legislation | Number of uses | Percentage |
|--|----------------|----------------|
| Legislation on medicinal products for human use | 19,314 | 99.72% |
| Legislation on medicinal products for veterinary use and their residues | | |
| Medical devices legislation | 6 | 0.03% |
| Industrial chemicals legislation | | |
| Plant protection product legislation | | |
| Biocides legislation | | |
| Food legislation including food contact material | | |
| Feed legislation including legislation for the safety of target animals, workers and environment | | |
| Cosmetics legislation | | |
| Other legislation | 48 | 0.25% |
| Total uses | 19,368 | 100.00% |

Regulatory uses by origin of regulatory requirement

| Origine of legislative requirement | Number of uses | Percentage |
|---|----------------|----------------|
| Legislation satisfying EU requirements | 19,286 | 99.58% |
| Legislation satisfying national requirements only [within EU] | 48 | 0.25% |
| Legislation satisfying Non-EU requirements only | 34 | 0.18% |
| Total uses | 19,368 | 100.00% |

Routine production uses by product type

| Product type | Number of uses | Percentage |
|---|----------------|----------------|
| Blood based products | 996 | 94.14% |
| Monoclonal antibody by mouse ascites method | | |
| Other product types | 62 | 5.86% |
| Total uses | 1,058 | 100.00% |

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

| Severity | Number of uses | Percentage |
|----------------------------|----------------|----------------|
| Non-recovery | 7,599 | 3.00% |
| Mild [up to and including] | 123,862 | 48.90% |
| Moderate | 118,035 | 46.60% |
| Severe | 3,779 | 1.49% |
| Total uses | 253,275 | 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 | 215,370 | 85.03% |
| Genetically altered without a harmful phenotype | 31,960 | 12.62% |
| Genetically altered with a harmful phenotype | 5,945 | 2.35% |
| Total uses | 253,275 | 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 | 441 | 39 | 8.13% | 480 |
| 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 | 808 | | | 808 |
| Other fish | | | | |
| Cephalopods | | | | |
| Total uses | 1,249 | 39 | 3.03% | 1,288 |

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

| Severity | Number of uses | Percentage |
|----------------------------|----------------|----------------|
| Non-recovery | | |
| Mild [up to and including] | 1,098 | 85.25% |
| Moderate | 190 | 14.75% |
| Severe | | |
| Total uses | 1,288 | 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 | 204 | 15.84% |
| Genetically altered without a harmful phenotype | 1,043 | 80.98% |
| Genetically altered with a harmful phenotype | 41 | 3.18% |
| Total uses | 1,288 | 100.00% |

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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 | 35 | 2.77% |
| Cardiovascular Blood and Lymphatic System | 183 | 14.48% |
| Nervous System | 273 | 21.60% |
| Respiratory System | | |
| Gastrointestinal System including Liver | 150 | 11.87% |
| Musculoskeletal System | | |
| Immune System | | |
| Urogenital/Reproductive System | | |
| Sensory Organs (skin, eyes and ears) | | |
| Endocrine System/Metabolism | 148 | 11.71% |
| Multisystemic | | |
| Ethology / Animal Behaviour /Animal Biology | | |
| Other basic research | 475 | 37.58% |
| Total uses | 1,264 | 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 | 12 | 50.00% |
| Human Respiratory Disorders | | |
| Human Gastrointestinal Disorders including Liver | | |
| Human Musculoskeletal Disorders | | |
| Human Immune Disorders | | |
| Human Urogenital/Reproductive Disorders | 12 | 50.00% |
| 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 | 24 | 100.00% |

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 | 7,187 | | | 7,187 |
| 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 | 7,187 | | | 7,187 |

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

| Severity | Number of uses | Percentage |
|----------------------------|----------------|----------------|
| Non-recovery | 395 | 5.50% |
| Mild [up to and including] | 5,267 | 73.29% |
| Moderate | 1,517 | 21.11% |
| Severe | 8 | 0.11% |
| Total uses | 7,187 | 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 | 7,147 | 99.44% |
| Genetically altered without a harmful phenotype | 40 | 0.56% |
| Genetically altered with a harmful phenotype | | |
| Total uses | 7,187 | 100.00% |