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# Animal Use Alternatives Thesaurus Terminology - Alphabetical Listing

[Go to the National Agricultural Library Thesaurus for more terminology](#)

This shows an alphabetical listing of all the terms along with its associated wordblock.

(taxonomic nomenclature) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

(taxonomic nomenclature)

BT1: Organisms

NT1: *Anguilla anguilla*

NT1: *Brachydanio rerio*

NT1: *Daphnia magna*

NT1: *Drosophila melanogaster*

NT1: *Escherichia coli*

NT1: *Hyallolella azteca*

NT1: *Limulus polyphemus*

NT1: *Macaca fascicularis*

NT1: *Macaca mulatta*

NT1: *Macaca nemestrina*

NT1: *Neurospora crassa*

NT1: *Oryzias latipes*

NT1: *Pimephales promelas*

NT1: *Pseudomonas fluorescens*

NT1: *Rhizopus nigricans*

NT1: *Vibrio fischeri*

NT1: *Xenopus laevis*

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## A

abiotic injuries \*

USE: abiotic stress

abiotic stress

UF: abiotic injuries \*

UF: stress, abiotic \*

BT1: animal stress

BT2: animal welfare

BT3: Animal Care and Welfare

BT3: bioethics

BT4: ethics

BT5: philosophy

BT6: Human and Social Issues

NT1: cold stress

NT2: hypothermia

NT1: heat stress

abnormal behavior

BT1: animal behavior

BT2: Life Sciences

NT1: stereotyped behavior

RT: animal welfare

acute dermal toxicity

BT1: acute toxicity

BT2: toxicity

BT3: toxicology

BT4: Product Testing and Toxicology

acute inhalation toxicity

BT1: acute toxicity

BT2: toxicity

BT3: toxicology

BT4: Product Testing and Toxicology

acute oral toxicity

BT1: acute toxicity

BT2: toxicity

BT3: toxicology

BT4: Product Testing and Toxicology

RT: fixed dose procedure

RT: lethal dose 50

RT: up-and-down method

acute toxic class method

BT1: animal tests

BT2: laboratory tests

BT3: Biomedical and Laboratory Methods

acute toxicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

NT1: acute dermal toxicity

NT1: acute inhalation toxicity

NT1: acute oral toxicity

NT1: dermal sensitization

NT1: eye irritation

NT1: skin irritation

adapted feeding

BT1: animal feeding

BT2: animal husbandry

BT3: Animal Care and Welfare

advisory committees

BT1: committees

BT2: organizations

BT3: Human and Social Issues

NT1: Interagency Coordinating Committee on the Validation of Alternative Methods

air temperature \*

USE: ambient temperature

algae

BT1: Organisms

alternatives to animal testing \*

USE: animal use alternatives

ambient temperature

UF: air temperature \*

BT1: animal environment

BT2: Animal Care and Welfare

Ames test

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

RT: mutagenicity

amphibians

BT1: vertebrates

BT2: animals

BT3: Organisms

NT1: caecilians

NT1: frogs

NT2: tadpoles

NT1: newts

amphipods

BT1: invertebrates

BT2: animals

BT3: Organisms

RT: *Hyallolela azteca*

analgesia

UF: analgesiometry \*

BT1: animal welfare

BT2: Animal Care and Welfare

BT2: bioethics

BT3: ethics

BT4: philosophy

BT5: Human and Social Issues

RT: pain

analgesic activity \*

USE: analgesic effect

analgesic effect

UF: analgesic activity \*

UF: analgesic properties \*

UF: antinociceptive effect \*

BT1: medicinal properties

BT2: pharmacology

BT3: Life Sciences

analgesic properties \*

USE: analgesic effect

analgesics

BT1: neurotropic drugs

BT2: drugs

BT3: Product Testing and Toxicology

analgesiometry \*

USE: analgesia

anesthesia

BT1: animal handling

BT2: animal husbandry

BT3: Animal Care and Welfare

NT1: anesthesia reversal

NT1: depth of anesthesia

RT: anesthetics

anesthesia reversal

BT1: anesthesia

BT2: animal handling

BT3: animal husbandry

BT4: Animal Care and Welfare

anesthetics

BT1: neurotropic drugs

BT2: drugs

BT3: Product Testing and Toxicology

NT1: general anesthetics

NT1: local anesthetics

RT: anesthesia

Anguilla anguilla

UF: European eel \*

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: fishes

animal anatomy

BT1: Life Sciences

animal behavior

UF: animal response (behavior) \*

BT1: Life Sciences

NT1: abnormal behavior

NT2: stereotyped behavior

NT1: displacement activities

NT1: feeding behavior

NT1: maternal behavior

NT1: social behavior

NT2: social dominance

NT2: social facilitation

Animal Care and Welfare

NT1: animal environment

NT2: ambient temperature

NT2: animal housing

NT3: animal rooms

NT3: animal space requirements

NT3: cage design

NT3: cage size

NT3: cages

NT4: nest boxes

NT4: perches

NT3: group housing

NT3: litter (bedding)

NT3: operating rooms

NT3: pair housing

NT3: pens

NT3: stocking rate

NT2: environmental enrichment

NT3: nestlets

NT3: social enrichment

NT2: lighting

NT2: shade

NT2: ventilation and air circulation

NT1: animal health

NT2: morbidity

NT3: ascites

NT2: mortality

NT1: animal husbandry

NT2: animal feeding

NT3: adapted feeding

NT3: feed withdrawal

NT3: water deprivation

NT2: animal handling

NT3: anesthesia

NT4: anesthesia reversal

NT4: depth of anesthesia

- NT3: animal use refinement
- NT3: blood sampling
  - NT4: saphenous vein puncture
  - NT4: sublingual vein puncture
- NT3: capture of animals
- NT3: herding
- NT3: postoperative care
- NT3: preoperative care
- NT3: restraint of animals
- NT3: surgery
  - NT4: laser surgery
- NT2: animal identification
  - NT3: radio frequency identification
- NT2: stocking rate
- NT2: training (animals)
- NT1: animal use alternatives
  - NT2: animal use reduction
  - NT2: animal use refinement
  - NT2: animal use replacement
- NT1: animal welfare
  - NT2: analgesia
  - NT2: animal preferences
  - NT2: animal stress
    - NT3: abiotic stress
      - NT4: cold stress
      - NT5: hypothermia
      - NT4: heat stress
    - NT3: distress
  - NT2: animal use refinement
  - NT2: animal well-being
  - NT2: death
    - NT3: euthanasia
      - NT4: asphyxiation
      - NT4: cervical dislocation
      - NT4: decapitation
  - NT2: distress
  - NT2: pain
- NT1: training of animal technicians

animal cell lines

- BT1: cell lines
  - BT2: in vitro culture
    - BT3: culture techniques
    - BT4: Biomedical and Laboratory Methods
    - BT4: Non-whole Animal Systems
- RT: mouse lymphoma assay

animal choices \*

- USE: animal preferences

animal density \*

USE: stocking rate

animal disease models

BT1: animal models

BT2: animal experiments

BT3: Biomedical and Laboratory Methods

animal environment

BT1: Animal Care and Welfare

NT1: ambient temperature

NT1: animal housing

NT2: animal rooms

NT2: animal space requirements

NT2: cage design

NT2: cage size

NT2: cages

NT3: nest boxes

NT3: perches

NT2: group housing

NT2: litter (bedding)

NT2: operating rooms

NT2: pair housing

NT2: pens

NT2: stocking rate

NT1: environmental enrichment

NT2: nestlets

NT2: social enrichment

NT1: lighting

NT1: shade

NT1: ventilation and air circulation

animal experiments

BT1: Biomedical and Laboratory Methods

NT1: animal models

NT2: animal disease models

NT1: surgery

NT2: laser surgery

animal feeding

BT1: animal husbandry

BT2: Animal Care and Welfare

NT1: adapted feeding

NT1: feed withdrawal

NT1: water deprivation

animal handlers \*

USE: animal technicians

animal handling

BT1: animal husbandry

BT2: Animal Care and Welfare

- NT1: anesthesia
  - NT2: anesthesia reversal
  - NT2: depth of anesthesia
- NT1: animal use refinement
- NT1: blood sampling
  - NT2: saphenous vein puncture
  - NT2: sublingual vein puncture
- NT1: capture of animals
- NT1: herding
- NT1: postoperative care
- NT1: preoperative care
- NT1: restraint of animals
- NT1: surgery
  - NT2: laser surgery
- RT: standard operating procedures

#### animal health

- BT1: Animal Care and Welfare
- NT1: morbidity
  - NT2: ascites
- NT1: mortality

#### animal housing

- BT1: animal environment
  - BT2: Animal Care and Welfare
- NT1: animal rooms
- NT1: animal space requirements
- NT1: cage design
- NT1: cage size
- NT1: cages
  - NT2: nest boxes
  - NT2: perches
- NT1: group housing
- NT1: litter (bedding)
- NT1: operating rooms
- NT1: pair housing
- NT1: pens
- NT1: stocking rate

#### animal husbandry

- BT1: Animal Care and Welfare
- NT1: animal feeding
  - NT2: adapted feeding
  - NT2: feed withdrawal
  - NT2: water deprivation
- NT1: animal handling
  - NT2: anesthesia
    - NT3: anesthesia reversal
    - NT3: depth of anesthesia
  - NT2: animal use refinement
  - NT2: blood sampling

- NT3: saphenous vein puncture
- NT3: sublingual vein puncture
- NT2: capture of animals
- NT2: herding
- NT2: postoperative care
- NT2: preoperative care
- NT2: restraint of animals
- NT2: surgery
- NT3: laser surgery
- NT1: animal identification
- NT2: radio frequency identification
- NT1: stocking rate
- NT1: training (animals)
- RT: euthanasia

animal identification

- UF: marking of animals \*
- BT1: animal husbandry
- BT2: Animal Care and Welfare
- NT1: radio frequency identification

animal law

- UF: animal legislation \*
- UF: animal regulations \*
- BT1: legislation
- BT2: Government, Law, and Regulations

animal legislation \*

- USE: animal law

animal models

- UF: models, animal \*
- BT1: animal experiments
- BT2: Biomedical and Laboratory Methods
- NT1: animal disease models
- SN: Animals with conditions similar to human diseases.

animal numbers

- BT1: Biomedical and Laboratory Methods
- RT: animal use reduction
- RT: experimental design

animal preferences

- UF: animal choices \*
- UF: choices, animal \*
- UF: preferences, animal \*
- BT1: animal welfare
- BT2: Animal Care and Welfare
- BT2: bioethics
- BT3: ethics
- BT4: philosophy

## BT5: Human and Social Issues

animal regulations \*

USE: animal law

animal response (behavior) \*

USE: animal behavior

animal rooms

BT1: animal housing

BT2: animal environment

BT3: Animal Care and Welfare

animal space requirements

UF: space requirements \*

BT1: animal housing

BT2: animal environment

BT3: Animal Care and Welfare

RT: cage size

RT: stocking rate

animal stress

BT1: animal welfare

BT2: Animal Care and Welfare

BT2: bioethics

BT3: ethics

BT4: philosophy

BT5: Human and Social Issues

NT1: abiotic stress

NT2: cold stress

NT3: hypothermia

NT2: heat stress

NT1: distress

animal technicians

UF: animal handlers \*

BT1: people

BT2: Human and Social Issues

RT: training of animal technicians

animal testing alternatives \*

USE: animal use alternatives

animal testing reduction \*

USE: animal use reduction

animal testing refinement \*

USE: animal use refinement

animal testing replacement \*

USE: animal use replacement

animal tests

BT1: laboratory tests

BT2: Biomedical and Laboratory Methods

NT1: acute toxic class method

NT1: eye irritation tests

NT1: fixed dose procedure

NT1: local lymph node assay

NT1: up-and-down method

animal training \*

USE: training (animals)

animal use alternatives

UF: alternatives to animal testing \*

UF: animal testing alternatives \*

BT1: Animal Care and Welfare

NT1: animal use reduction

NT1: animal use refinement

NT1: animal use replacement

animal use reduction

UF: animal testing reduction \*

UF: reduction, animal testing \*

BT1: animal use alternatives

BT2: Animal Care and Welfare

BT1: experimental design

BT2: Biomedical and Laboratory Methods

RT: animal numbers

animal use refinement

UF: animal testing refinement \*

UF: refinement, animal testing \*

BT1: animal handling

BT2: animal husbandry

BT3: Animal Care and Welfare

BT1: animal use alternatives

BT2: Animal Care and Welfare

BT1: animal welfare

BT2: Animal Care and Welfare

BT2: bioethics

BT3: ethics

BT4: philosophy

BT5: Human and Social Issues

animal use replacement

UF: animal testing replacement \*

UF: replacement, animal testing \*

BT1: animal use alternatives

BT2: Animal Care and Welfare

RT: computer software

RT: simulation

animal welfare

BT1: Animal Care and Welfare

BT1: bioethics

BT2: ethics

BT3: philosophy

BT4: Human and Social Issues

NT1: analgesia

NT1: animal preferences

NT1: animal stress

NT2: abiotic stress

NT3: cold stress

NT4: hypothermia

NT3: heat stress

NT2: distress

NT1: animal use refinement

NT1: animal well-being

NT1: death

NT2: euthanasia

NT3: asphyxiation

NT3: cervical dislocation

NT3: decapitation

NT1: distress

NT1: pain

RT: abnormal behavior

RT: Institutional Animal Care and Use Committees

animal well-being

UF: animal wellbeing \*

UF: well-being, animal

BT1: animal welfare

BT2: Animal Care and Welfare

BT2: bioethics

BT3: ethics

BT4: philosophy

BT5: Human and Social Issues

animal wellbeing \*

USE: animal well-being

animals

UF: nonhuman animals \*

BT1: Organisms

NT1: animals in education

NT1: invertebrates

NT2: amphipods

NT2: cephalopods

NT2: earthworms

NT2: insects

NT2: macroinvertebrates

NT2: sea urchins  
NT1: laboratory animals  
NT2: germ-free animals  
NT3: specific pathogen-free animals  
NT2: laboratory mammals  
NT3: laboratory primates  
NT1: transgenic animals  
NT1: vertebrates  
NT2: amphibians  
NT3: caecilians  
NT3: frogs  
NT4: tadpoles  
NT3: newts  
NT2: birds  
NT3: chickens  
NT3: pigeons  
NT2: fishes  
NT2: mammals  
NT3: cats  
NT3: dogs  
NT3: gerbils  
NT3: guinea pigs  
NT3: hamsters  
NT3: mice  
NT3: nonhuman primates  
NT4: chimpanzees  
NT4: monkeys  
NT3: rabbits  
NT3: rats  
NT2: reptiles

animals in education

BT1: animals  
BT2: Organisms  
BT1: Science Education

anti-anxiety agents \*

USE: tranquilizers

anti-inflammatory activity

UF: anti-inflammatory effect \*  
UF: anti-inflammatory properties \*  
UF: antiinflammatory activity \*  
UF: antiinflammatory effect \*  
UF: antiinflammatory properties \*  
BT1: medicinal properties  
BT2: pharmacology  
BT3: Life Sciences

anti-inflammatory drugs

BT1: drugs

BT2: Product Testing and Toxicology

anti-inflammatory effect \*

USE: anti-inflammatory activity

anti-inflammatory properties \*

USE: anti-inflammatory activity

antibody production

BT1: Biomedical and Laboratory Methods

RT: ascites

antiinflammatory activity \*

USE: anti-inflammatory activity

antiinflammatory effect \*

USE: anti-inflammatory activity

antiinflammatory properties \*

USE: anti-inflammatory activity

antinociceptive effect \*

USE: analgesic effect

anxiolytics \*

USE: tranquilizers

artificial neural networks \*

USE: neural networks

artificial skin

BT1: Non-whole Animal Systems

ascites

BT1: morbidity

BT2: animal health

BT3: Animal Care and Welfare

RT: antibody production

asphyxiation

BT1: euthanasia

BT2: death

BT3: animal welfare

BT4: Animal Care and Welfare

BT4: bioethics

BT5: ethics

BT6: philosophy

BT7: Human and Social Issues

assays

BT1: laboratory tests

BT2: Biomedical and Laboratory Methods

NT1: bioassays

NT2: Ames test

NT2: bioluminescence assays

NT3: bioluminescent bacterial genotoxicity test

NT2: bone marrow micronucleus assay

NT2: cell transformation assay

NT2: cytotoxicity assays

NT2: eye irritation tests

NT2: frog embryo teratogenesis assay--Xenopus

NT2: fungal viability assay

NT2: Limulus amoebocyte lysate assay

NT2: local lymph node assay

NT2: mouse lymphoma assay

NT2: somatic mutation and recombination assay

NT2: yeast mutagenicity assay

NT1: immunoassay

NT2: enzyme-linked immunosorbent assay

audiovisual aids

BT1: Non-whole Animal Systems

NT1: video technology

axenic animals \*

USE: germ-free animals

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## B

bacteria

BT1: Organisms

RT: Pseudomonas fluorescens

RT: Vibrio fischeri

baseline values \*

USE: normal values

bioassays

BT1: assays

BT2: laboratory tests

BT3: Biomedical and Laboratory Methods

NT1: Ames test

NT1: bioluminescence assays

NT2: bioluminescent bacterial genotoxicity test

NT1: bone marrow micronucleus assay

NT1: cell transformation assay

NT1: cytotoxicity assays

- NT1: eye irritation tests
- NT1: frog embryo teratogenesis assay--Xenopus
- NT1: fungal viability assay
- NT1: Limulus amebocyte lysate assay
- NT1: local lymph node assay
- NT1: mouse lymphoma assay
- NT1: somatic mutation and recombination assay
- NT1: yeast mutagenicity assay

#### biochemistry

- BT1: Life Sciences
- NT1: biodegradation
- NT1: enzymes
  - NT2: enzyme activity
- NT1: pharmacokinetics
- NT1: structure activity relationships
  - NT2: quantitative structure activity relationships

#### biocompatibility

- BT1: product properties
- BT2: products
  - BT3: Product Testing and Toxicology

#### biodegradation

- BT1: biochemistry
- BT2: Life Sciences

#### bioethics

- BT1: ethics
- BT2: philosophy
  - BT3: Human and Social Issues
- NT1: animal welfare
- NT2: analgesia
- NT2: animal preferences
- NT2: animal stress
  - NT3: abiotic stress
  - NT4: cold stress
    - NT5: hypothermia
  - NT4: heat stress
  - NT3: distress
- NT2: animal use refinement
- NT2: animal well-being
- NT2: death
  - NT3: euthanasia
    - NT4: asphyxiation
    - NT4: cervical dislocation
    - NT4: decapitation
- NT2: distress
- NT2: pain

#### bioluminescence assays

UF: Microtox (R) \*

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

NT1: bioluminescent bacterial genotoxicity test

bioluminescent bacterial genotoxicity test

UF: Mutatox (R) assay \*

BT1: bioluminescence assays

BT2: bioassays

BT3: assays

BT4: laboratory tests

BT5: Biomedical and Laboratory Methods

biomarkers

BT1: indicators

BT2: Biomedical and Laboratory Methods

RT: enzyme activity

RT: metabolites

Biomedical and Laboratory Methods

NT1: animal experiments

NT2: animal models

NT3: animal disease models

NT2: surgery

NT3: laser surgery

NT1: animal numbers

NT1: antibody production

NT1: culture techniques

NT2: in vitro culture

NT3: cell culture

NT4: cloning (cells)

NT3: cell lines

NT4: animal cell lines

NT4: human cell lines

NT3: coculture

NT3: enrichment culture

NT3: explants

NT3: organ culture

NT3: ovule culture

NT3: tissue culture

NT4: embryo culture

NT4: human tissue cultures

NT1: dosage

NT2: inhibitory concentration 50

NT2: lethal concentration 50

NT2: lethal dose 50

NT2: no observed adverse effect level

NT1: equipment

NT2: bioreactors

- NT2: laboratory equipment
  - NT3: hollow fiber reactors
- NT2: medical devices
- NT1: experimental design
  - NT2: animal use reduction
  - NT2: endpoints
    - NT3: humane endpoints
- NT1: indicators
  - NT2: biomarkers
  - NT2: indicator species
- NT1: laboratory methods
  - NT2: cryopreservation
  - NT2: polymerase chain reaction
- NT1: laboratory tests
  - NT2: animal tests
    - NT3: acute toxic class method
    - NT3: eye irritation tests
    - NT3: fixed dose procedure
    - NT3: local lymph node assay
    - NT3: up-and-down method
  - NT2: assays
    - NT3: bioassays
      - NT4: Ames test
      - NT4: bioluminescence assays
        - NT5: bioluminescent bacterial genotoxicity test
      - NT4: bone marrow micronucleus assay
      - NT4: cell transformation assay
      - NT4: cytotoxicity assays
      - NT4: eye irritation tests
      - NT4: frog embryo teratogenesis assay--Xenopus
      - NT4: fungal viability assay
      - NT4: Limulus amebocyte lysate assay
      - NT4: local lymph node assay
      - NT4: mouse lymphoma assay
      - NT4: somatic mutation and recombination assay
      - NT4: yeast mutagenicity assay
    - NT3: immunoassay
      - NT4: enzyme-linked immunosorbent assay
- NT2: nonanimal tests
  - NT2: skin tests
    - NT3: skin irritancy tests
      - NT4: patch test
    - NT3: skin prick test
- NT1: statistics
  - NT2: estimation
    - NT3: risk assessment
  - NT2: normal values
  - NT2: prediction

bioreactors

- BT1: equipment

BT2: Biomedical and Laboratory Methods  
BT2: Non-whole Animal Systems

birds

BT1: vertebrates

BT2: animals

BT3: Organisms

NT1: chickens

NT1: pigeons

blood collection \*

USE: blood sampling

blood drawing \*

USE: blood sampling

blood sampling

UF: blood collection \*

UF: blood drawing \*

BT1: animal handling

BT2: animal husbandry

BT3: Animal Care and Welfare

NT1: saphenous vein puncture

NT1: sublingual vein puncture

bone marrow cells

BT1: cells

BT2: Life Sciences

bone marrow micronucleus assay

UF: micronucleus test \*

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

Brachydanio rerio

UF: Danio rerio \*

UF: zebrafish \*

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: fishes

breeding

BT1: Life Sciences

NT1: lines

NT2: inbred lines

NT1: strains

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## C

cadavers

BT1: Non-whole Animal Systems

caecilians

BT1: amphibians

BT2: vertebrates

BT3: animals

BT4: Organisms

cage density \*

USE: stocking rate

cage design

BT1: animal housing

BT2: animal environment

BT3: Animal Care and Welfare

BT1: design

BT2: Human and Social Issues

RT: environmental enrichment

cage size

BT1: animal housing

BT2: animal environment

BT3: Animal Care and Welfare

RT: animal space requirements

RT: cages

cages

BT1: animal housing

BT2: animal environment

BT3: Animal Care and Welfare

NT1: nest boxes

NT1: perches

RT: cage size

capture of animals

BT1: animal handling

BT2: animal husbandry

BT3: Animal Care and Welfare

carcinogenicity

UF: oncogenicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

CASE \*

USE: computer automated structure evaluation

cats

BT1: mammals

BT2: vertebrates

BT3: animals

BT4: Organisms

cell culture

BT1: in vitro culture

BT2: culture techniques

BT3: Biomedical and Laboratory Methods

BT3: Non-whole Animal Systems

NT1: cloning (cells)

cell lines

BT1: in vitro culture

BT2: culture techniques

BT3: Biomedical and Laboratory Methods

BT3: Non-whole Animal Systems

NT1: animal cell lines

NT1: human cell lines

cell transformation assay

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

cells

BT1: Life Sciences

NT1: bone marrow cells

NT1: hybridomas

NT1: keratinocytes

NT1: kidney cells

NT1: liver cells

NT1: stem cells

NT2: embryonic stem cells

cephalopods

BT1: invertebrates

BT2: animals

BT3: Organisms

cervical dislocation

BT1: euthanasia

BT2: death

BT3: animal welfare

BT4: Animal Care and Welfare

BT4: bioethics

BT5: ethics

BT6: philosophy

BT7: Human and Social Issues

chickens

BT1: birds

BT2: vertebrates

BT3: animals

BT4: Organisms

chimpanzees

UF: Pan troglodytes \*

BT1: nonhuman primates

BT2: mammals

BT3: vertebrates

BT4: animals

BT5: Organisms

choices, animal \*

USE: animal preferences

chronic toxicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

cloning (cells)

BT1: cell culture

BT2: in vitro culture

BT3: culture techniques

BT4: Biomedical and Laboratory Methods

BT4: Non-whole Animal Systems

RT: genetics

coculture

BT1: in vitro culture

BT2: culture techniques

BT3: Biomedical and Laboratory Methods

BT3: Non-whole Animal Systems

codes of practice

BT1: standards

BT2: Government, Law, and Regulations

cold stress

BT1: abiotic stress

BT2: animal stress

BT3: animal welfare

BT4: Animal Care and Welfare

BT4: bioethics

BT5: ethics

BT6: philosophy

BT7: Human and Social Issues

NT1: hypothermia

committees

BT1: organizations

BT2: Human and Social Issues

NT1: advisory committees

NT2: Interagency Coordinating Committee on the Validation of Alternative Methods

RT: Institutional Animal Care and Use Committees

computer automated structure evaluation

UF: CASE \*

BT1: computer software

BT2: Non-whole Animal Systems

RT: structure activity relationships

computer models

BT1: computer software

BT2: Non-whole Animal Systems

computer programmes \*

USE: computer software

computer programs \*

USE: computer software

computer software

UF: computer programmes \*

UF: computer programs \*

BT1: Non-whole Animal Systems

NT1: computer automated structure evaluation

NT1: computer models

NT1: expert systems

NT1: interactive programs

NT1: neural networks

NT1: virtual reality

RT: animal use replacement

Corrositex (R) \*

USE: skin irritancy tests

cosmetics

BT1: products

BT2: Product Testing and Toxicology

cosmetics testing

BT1: product testing

BT2: Product Testing and Toxicology

cryopreservation

BT1: laboratory methods

## BT2: Biomedical and Laboratory Methods

### culture techniques

BT1: Biomedical and Laboratory Methods

BT1: Non-whole Animal Systems

NT1: in vitro culture

NT2: cell culture

NT3: cloning (cells)

NT2: cell lines

NT3: animal cell lines

NT3: human cell lines

NT2: coculture

NT2: enrichment culture

NT2: explants

NT2: organ culture

NT2: ovule culture

NT2: tissue culture

NT3: embryo culture

NT3: human tissue cultures

### cynomolgus monkeys \*

USE: *Macaca fascicularis*

### cytotoxicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

### cytotoxicity assays

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

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## D

### Danio rerio \*

USE: *Brachydanio rerio*

### Daphnia magna

BT1: (taxonomic nomenclature)

BT2: Organisms

### death

BT1: animal welfare

BT2: Animal Care and Welfare

BT2: bioethics  
BT3: ethics  
BT4: philosophy  
BT5: Human and Social Issues

NT1: euthanasia  
NT2: asphyxiation  
NT2: cervical dislocation  
NT2: decapitation

decapitation

BT1: euthanasia  
BT2: death  
BT3: animal welfare  
BT4: Animal Care and Welfare  
BT4: bioethics  
BT5: ethics  
BT6: philosophy  
BT7: Human and Social Issues

depth of anesthesia

UF: plane of anesthesia \*  
BT1: anesthesia  
BT2: animal handling  
BT3: animal husbandry  
BT4: Animal Care and Welfare

dermal irritancy tests \*

USE: skin irritancy tests

dermal irritation \*

USE: skin irritation

dermal sensitization

UF: skin sensitization \*  
BT1: acute toxicity  
BT2: toxicity  
BT3: toxicology  
BT4: Product Testing and Toxicology

design

BT1: Human and Social Issues  
NT1: cage design

discomfort \*

USE: pain

displacement activities

BT1: animal behavior  
BT2: Life Sciences

distress

UF: mental stress \*

UF: psychological stress \*

UF: stress, psychological \*

BT1: animal stress

BT2: animal welfare

BT3: Animal Care and Welfare

BT3: bioethics

BT4: ethics

BT5: philosophy

BT6: Human and Social Issues

BT1: animal welfare

BT2: Animal Care and Welfare

BT2: bioethics

BT3: ethics

BT4: philosophy

BT5: Human and Social Issues

DNA

BT1: genetics

BT2: Life Sciences

dogs

BT1: mammals

BT2: vertebrates

BT3: animals

BT4: Organisms

dosage

BT1: Biomedical and Laboratory Methods

NT1: inhibitory concentration 50

NT1: lethal concentration 50

NT1: lethal dose 50

NT1: no observed adverse effect level

RT: drugs

RT: experimental design

Draize eye test \*

USE: eye irritation tests

Draize rabbit eye test \*

USE: eye irritation tests

Drosophila melanogaster

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: insects

drug testing

BT1: product testing

BT2: Product Testing and Toxicology

drug toxicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

drugs

BT1: Product Testing and Toxicology

NT1: anti-inflammatory drugs

NT1: neurotropic drugs

NT2: analgesics

NT2: anesthetics

NT3: general anesthetics

NT3: local anesthetics

NT2: opioids

NT2: sedatives

NT2: tranquilizers

RT: dosage

dummies \*

USE: mannequins

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## E

earthworms

BT1: invertebrates

BT2: animals

BT3: Organisms

ecological toxicity \*

USE: ecotoxicity

ecotoxicity

UF: ecological toxicity \*

UF: ecotoxicology \*

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

ecotoxicology \*

USE: ecotoxicity

efficacy testing

BT1: Product Testing and Toxicology

ELISA \*

USE: enzyme-linked immunosorbent assay

embryo culture

BT1: tissue culture

BT2: in vitro culture

BT3: culture techniques

BT4: Biomedical and Laboratory Methods

BT4: Non-whole Animal Systems

embryonic stem cells

BT1: stem cells

BT2: cells

BT3: Life Sciences

embryotoxicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

endotoxins

BT1: toxic substances

BT2: toxicology

BT3: Product Testing and Toxicology

RT: Limulus ameocyte lysate assay

endpoints

BT1: experimental design

BT2: Biomedical and Laboratory Methods

NT1: humane endpoints

enrichment culture

BT1: in vitro culture

BT2: culture techniques

BT3: Biomedical and Laboratory Methods

BT3: Non-whole Animal Systems

environmental enhancement \*

USE: environmental enrichment

environmental enrichment

UF: environmental enhancement \*

BT1: animal environment

BT2: Animal Care and Welfare

NT1: nestlets

NT1: social enrichment

RT: cage design

SN: Enhancing the environment of confined animals in order to encourage natural behaviors and improve their quality of life. [Jensen & Kreger, 1997.]

enzyme activity

BT1: enzymes  
BT2: biochemistry  
BT3: Life Sciences  
RT: biomarkers

enzyme-linked immunosorbent assay

UF: ELISA \*  
BT1: immunoassay  
BT2: assays  
BT3: laboratory tests  
BT4: Biomedical and Laboratory Methods

enzymes

BT1: biochemistry  
BT2: Life Sciences  
NT1: enzyme activity

equipment

BT1: Biomedical and Laboratory Methods  
BT1: Non-whole Animal Systems  
NT1: bioreactors  
NT1: laboratory equipment  
NT2: hollow fiber reactors  
NT1: medical devices

Escherichia coli

BT1: (taxonomic nomenclature)  
BT2: Organisms

estimation

BT1: mathematical models  
BT2: Non-whole Animal Systems  
BT1: statistics  
BT2: Biomedical and Laboratory Methods  
NT1: risk assessment

ethics

BT1: philosophy  
BT2: Human and Social Issues  
NT1: bioethics  
NT2: animal welfare  
NT3: analgesia  
NT3: animal preferences  
NT3: animal stress  
NT4: abiotic stress  
NT5: cold stress  
NT6: hypothermia  
NT5: heat stress  
NT4: distress  
NT3: animal use refinement  
NT3: animal well-being

- NT3: death
- NT4: euthanasia
- NT5: asphyxiation
- NT5: cervical dislocation
- NT5: decapitation
- NT3: distress
- NT3: pain

European eel \*  
USE: *Anguilla anguilla*

euthanasia

- UF: humane killing \*
- UF: mercy killing \*
- BT1: death
- BT2: animal welfare
- BT3: Animal Care and Welfare
- BT3: bioethics
- BT4: ethics
- BT5: philosophy
- BT6: Human and Social Issues

NT1: asphyxiation

NT1: cervical dislocation

NT1: decapitation

RT: animal husbandry

experimental design

- BT1: Biomedical and Laboratory Methods
- NT1: animal use reduction
- NT1: endpoints
- NT2: humane endpoints
- RT: animal numbers
- RT: dosage
- RT: indicators
- RT: statistics
- RT: validation

expert systems

- BT1: computer software
- BT2: Non-whole Animal Systems

explants

- BT1: in vitro culture
- BT2: culture techniques
- BT3: Biomedical and Laboratory Methods
- BT3: Non-whole Animal Systems

eye irritation

- BT1: acute toxicity
- BT2: toxicity
- BT3: toxicology

## BT4: Product Testing and Toxicology

eye irritation tests

UF: Draize eye test \*

UF: Draize rabbit eye test \*

UF: ocular irritation test \*

BT1: animal tests

BT2: laboratory tests

BT3: Biomedical and Laboratory Methods

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

RT: skin irritancy tests

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## F

facility management

BT1: Human and Social Issues

fathead minnow \*

USE: Pimephales promelas

feed deprivation \*

USE: feed withdrawal

feed withdrawal

UF: feed deprivation \*

BT1: animal feeding

BT2: animal husbandry

BT3: Animal Care and Welfare

feeding behavior

BT1: animal behavior

BT2: Life Sciences

FETAX \*

USE: frog embryo teratogenesis assay--Xenopus

fishes

BT1: vertebrates

BT2: animals

BT3: Organisms

RT: Anguilla anguilla

RT: Brachydanio rerio

RT: Oryzias latipes

fixed dose procedure

BT1: animal tests

BT2: laboratory tests

BT3: Biomedical and Laboratory Methods

RT: acute oral toxicity

frog embryo teratogenesis assay--Xenopus

UF: FETAX \*

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

RT: *Xenopus laevis*

frogs

BT1: amphibians

BT2: vertebrates

BT3: animals

BT4: Organisms

NT1: tadpoles

RT: *Xenopus laevis*

fungus viability assay

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

fungi

BT1: Organisms

RT: *Neurospora crassa*

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## G

general anesthetics

BT1: anesthetics

BT2: neurotropic drugs

BT3: drugs

BT4: Product Testing and Toxicology

genetics

BT1: Life Sciences

NT1: DNA

NT1: line differences

NT1: mutants

- NT2: knockout mutants
- NT1: polymerase chain reaction
- NT1: RNA
- NT1: strain differences
- RT: cloning (cells)

#### genotoxicity

- BT1: toxicity
- BT2: toxicology
- BT3: Product Testing and Toxicology

#### gerbils

- BT1: mammals
- BT2: vertebrates
- BT3: animals
- BT4: Organisms

#### germ free animals \*

- USE: germ-free animals

#### germ-free animals

- UF: axenic animals \*
- UF: germ free animals \*
- UF: germfree animals \*
- UF: gnotobiotic animals \*
- UF: pathogen free animals (complete) \*
- UF: pathogen-free animals (complete) \*
- BT1: laboratory animals
- BT2: animals
- BT3: Organisms
- NT1: specific pathogen-free animals

#### germfree animals \*

- USE: germ-free animals

#### gnotobiotic animals \*

- USE: germ-free animals

#### Government, Law, and Regulations

- NT1: guidelines
- NT1: legislation
  - NT2: animal law
- NT1: policy
- NT1: regulations
- NT1: standards
  - NT2: codes of practice
  - NT2: standard operating procedures

#### group housing

- BT1: animal housing
- BT2: animal environment

BT3: Animal Care and Welfare

guidelines

BT1: Government, Law, and Regulations

RT: regulations

guinea pigs

BT1: mammals

BT2: vertebrates

BT3: animals

BT4: Organisms

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## H

hamsters

BT1: mammals

BT2: vertebrates

BT3: animals

BT4: Organisms

heat shock proteins

BT1: physiology

BT2: Life Sciences

heat stress

BT1: abiotic stress

BT2: animal stress

BT3: animal welfare

BT4: Animal Care and Welfare

BT4: bioethics

BT5: ethics

BT6: philosophy

BT7: Human and Social Issues

hepatocytes

USE: liver cells

hepatotoxicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

herding

BT1: animal handling

BT2: animal husbandry

BT3: Animal Care and Welfare

history

BT1: Human and Social Issues

hollow fiber reactors

BT1: laboratory equipment

BT2: equipment

BT3: Biomedical and Laboratory Methods

BT3: Non-whole Animal Systems

household products

BT1: products

BT2: Product Testing and Toxicology

Human and Social Issues

NT1: design

NT2: cage design

NT1: facility management

NT1: history

NT1: human-animal relations

NT1: organizations

NT2: committees

NT3: advisory committees

NT4: Interagency Coordinating Committee on the Validation of Alternative Methods

NT1: people

NT2: animal technicians

NT2: researchers

NT3: principal investigators

NT2: veterinarians

NT1: philosophy

NT2: ethics

NT3: bioethics

NT4: animal welfare

NT5: analgesia

NT5: animal preferences

NT5: animal stress

NT6: abiotic stress

NT7: cold stress

NT8: hypothermia

NT7: heat stress

NT6: distress

NT5: animal use refinement

NT5: animal well-being

NT5: death

NT6: euthanasia

NT7: asphyxiation

NT7: cervical dislocation

NT7: decapitation

NT5: distress

NT5: pain

NT1: zoonoses

human cell lines

BT1: cell lines

BT2: in vitro culture

BT3: culture techniques

BT4: Biomedical and Laboratory Methods

BT4: Non-whole Animal Systems

human tissue cultures

BT1: tissue culture

BT2: in vitro culture

BT3: culture techniques

BT4: Biomedical and Laboratory Methods

BT4: Non-whole Animal Systems

human-animal interactions \*

USE: human-animal relations

human-animal relations

UF: human-animal interactions \*

BT1: Human and Social Issues

humane endpoints

BT1: endpoints

BT2: experimental design

BT3: Biomedical and Laboratory Methods

humane killing \*

USE: euthanasia

Hyallolela azteca

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: amphipods

hybridomas

BT1: cells

BT2: Life Sciences

hypothermia

BT1: cold stress

BT2: abiotic stress

BT3: animal stress

BT4: animal welfare

BT5: Animal Care and Welfare

BT5: bioethics

BT6: ethics

BT7: philosophy

BT8: Human and Social Issues

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I

IACUC \*

USE: Institutional Animal Care and Use Committees

IC50

USE: inhibitory concentration 50

ICCVAM \*

USE: Interagency Coordinating Committee on the Validation of Alternative Methods

immunoassay

BT1: assays

BT2: laboratory tests

BT3: Biomedical and Laboratory Methods

NT1: enzyme-linked immunosorbent assay

in vitro culture

BT1: culture techniques

BT2: Biomedical and Laboratory Methods

BT2: Non-whole Animal Systems

NT1: cell culture

NT2: cloning (cells)

NT1: cell lines

NT2: animal cell lines

NT2: human cell lines

NT1: coculture

NT1: enrichment culture

NT1: explants

NT1: organ culture

NT1: ovule culture

NT1: tissue culture

NT2: embryo culture

NT2: human tissue cultures

inbred lines

BT1: lines

BT2: breeding

BT3: Life Sciences

indicator species

BT1: indicators

BT2: Biomedical and Laboratory Methods

BT1: Organisms

indicators

BT1: Biomedical and Laboratory Methods

NT1: biomarkers

NT1: indicator species  
RT: experimental design

inhibitory concentration 50

UF: IC50  
BT1: dosage  
BT2: Biomedical and Laboratory Methods

insects

BT1: invertebrates  
BT2: animals  
BT3: Organisms  
RT: Drosophila melanogaster

Institutional Animal Care and Use Committees

UF: IACUC \*  
NT1: membership  
NT1: protocol review  
NT1: whistleblowing  
RT: animal welfare  
RT: committees  
RT: laboratory animals

interactive programs

BT1: computer software  
BT2: Non-whole Animal Systems

Interagency Coordinating Committee on the Validation of Alternative Methods

UF: ICCVAM \*  
BT1: advisory committees  
BT2: committees  
BT3: organizations  
BT4: Human and Social Issues  
RT: validation

invertebrates

BT1: animals  
BT2: Organisms  
NT1: amphipods  
NT1: cephalopods  
NT1: earthworms  
NT1: insects  
NT1: macroinvertebrates  
NT1: sea urchins  
RT: Limulus polyphemus

irritant properties

BT1: product properties  
BT2: products  
BT3: Product Testing and Toxicology

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## K

keratinocytes

BT1: cells

BT2: Life Sciences

kidney cells

BT1: cells

BT2: Life Sciences

knockout mutants

BT1: mutants

BT2: genetics

BT3: Life Sciences

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## L

laboratory animals

BT1: animals

BT2: Organisms

NT1: germ-free animals

NT2: specific pathogen-free animals

NT1: laboratory mammals

NT2: laboratory primates

RT: Institutional Animal Care and Use Committees

laboratory equipment

BT1: equipment

BT2: Biomedical and Laboratory Methods

BT2: Non-whole Animal Systems

NT1: hollow fiber reactors

laboratory mammals

BT1: laboratory animals

BT2: animals

BT3: Organisms

NT1: laboratory primates

laboratory methods

UF: methods, laboratory

UF: techniques, laboratory

BT1: Biomedical and Laboratory Methods

NT1: cryopreservation

NT1: polymerase chain reaction

laboratory primates

BT1: laboratory mammals

BT2: laboratory animals

BT3: animals

BT4: Organisms

RT: monkeys

RT: nonhuman primates

laboratory tests

UF: testing, laboratory \*

BT1: Biomedical and Laboratory Methods

NT1: animal tests

NT2: acute toxic class method

NT2: eye irritation tests

NT2: fixed dose procedure

NT2: local lymph node assay

NT2: up-and-down method

NT1: assays

NT2: bioassays

NT3: Ames test

NT3: bioluminescence assays

NT4: bioluminescent bacterial genotoxicity test

NT3: bone marrow micronucleus assay

NT3: cell transformation assay

NT3: cytotoxicity assays

NT3: eye irritation tests

NT3: frog embryo teratogenesis assay--Xenopus

NT3: fungal viability assay

NT3: Limulus amebocyte lysate assay

NT3: local lymph node assay

NT3: mouse lymphoma assay

NT3: somatic mutation and recombination assay

NT3: yeast mutagenicity assay

NT2: immunoassay

NT3: enzyme-linked immunosorbent assay

NT1: nonanimal tests

NT1: skin tests

NT2: skin irritancy tests

NT3: patch test

NT2: skin prick test

LAL \*

USE: Limulus amebocyte lysate assay

laser surgery

BT1: surgery

BT2: animal experiments

BT3: Biomedical and Laboratory Methods

BT2: animal handling

BT3: animal husbandry

BT4: Animal Care and Welfare

LC 50 \*

USE: lethal concentration 50

LC50 \*

USE: lethal concentration 50

LD(50) \*

USE: lethal dose 50

LD50 \*

USE: lethal dose 50

legislation

BT1: Government, Law, and Regulations

NT1: animal law

RT: regulations

lethal concentration 50

UF: LC 50 \*

UF: LC50 \*

BT1: dosage

BT2: Biomedical and Laboratory Methods

lethal dose 50

UF: LD(50) \*

UF: LD50 \*

BT1: dosage

BT2: Biomedical and Laboratory Methods

RT: acute oral toxicity

Life Sciences

NT1: animal anatomy

NT1: animal behavior

NT2: abnormal behavior

NT3: stereotyped behavior

NT2: displacement activities

NT2: feeding behavior

NT2: maternal behavior

NT2: social behavior

NT3: social dominance

NT3: social facilitation

NT1: biochemistry

NT2: biodegradation

NT2: enzymes

NT3: enzyme activity

NT2: pharmacokinetics

- NT2: structure activity relationships
- NT3: quantitative structure activity relationships
- NT1: breeding
  - NT2: lines
    - NT3: inbred lines
  - NT2: strains
- NT1: cells
  - NT2: bone marrow cells
  - NT2: hybridomas
  - NT2: keratinocytes
  - NT2: kidney cells
  - NT2: liver cells
  - NT2: stem cells
    - NT3: embryonic stem cells
- NT1: genetics
  - NT2: DNA
  - NT2: line differences
  - NT2: mutants
    - NT3: knockout mutants
  - NT2: polymerase chain reaction
  - NT2: RNA
  - NT2: strain differences
- NT1: pharmacology
  - NT2: medicinal properties
    - NT3: analgesic effect
    - NT3: anti-inflammatory activity
- NT1: physiology
  - NT2: heat shock proteins
  - NT2: metabolites
  - NT2: susceptibility

#### lighting

- BT1: animal environment
- BT2: Animal Care and Welfare

#### Limulus amebocyte lysate assay

- UF: LAL \*
- BT1: bioassays
  - BT2: assays
    - BT3: laboratory tests
    - BT4: Biomedical and Laboratory Methods
- RT: endotoxins

#### Limulus polyphemus

- BT1: (taxonomic nomenclature)
- BT2: Organisms
- RT: invertebrates

#### line differences

- BT1: genetics
- BT2: Life Sciences

RT: lines

lines

BT1: breeding

BT2: Life Sciences

NT1: inbred lines

RT: line differences

RT: strains

litter (bedding)

BT1: animal housing

BT2: animal environment

BT3: Animal Care and Welfare

liver cells

UF: hepatocytes

BT1: cells

BT2: Life Sciences

LLNA \*

USE: local lymph node assay

local anesthetics

BT1: anesthetics

BT2: neurotropic drugs

BT3: drugs

BT4: Product Testing and Toxicology

local lymph node assay

UF: LLNA \*

UF: murine local lymph node assay \*

BT1: animal tests

BT2: laboratory tests

BT3: Biomedical and Laboratory Methods

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

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## M

Macaca fascicularis

UF: cynomolgus monkeys \*

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: monkeys

Macaca mulatta

UF: rhesus monkeys \*

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: monkeys

Macaca nemestrina

UF: pigtailed macaques \*

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: monkeys

macroinvertebrates

BT1: invertebrates

BT2: animals

BT3: Organisms

mammals

BT1: vertebrates

BT2: animals

BT3: Organisms

NT1: cats

NT1: dogs

NT1: gerbils

NT1: guinea pigs

NT1: hamsters

NT1: mice

NT1: nonhuman primates

NT2: chimpanzees

NT2: monkeys

NT1: rabbits

NT1: rats

mannequins

UF: dummies \*

UF: mannikins \*

BT1: Non-whole Animal Systems

mannikins \*

USE: mannequins

marking of animals \*

USE: animal identification

maternal behavior

BT1: animal behavior

BT2: Life Sciences

mathematical models

BT1: Non-whole Animal Systems

NT1: estimation

NT2: risk assessment

RT: simulation

medaka \*

USE: *Oryzias latipes*

medical devices

BT1: equipment

BT2: Biomedical and Laboratory Methods

BT2: Non-whole Animal Systems

BT1: products

BT2: Product Testing and Toxicology

medical materials

BT1: products

BT2: Product Testing and Toxicology

medicinal properties

BT1: pharmacology

BT2: Life Sciences

NT1: analgesic effect

NT1: anti-inflammatory activity

membership

BT1: Institutional Animal Care and Use Committees

mental stress \*

USE: distress

mercy killing \*

USE: euthanasia

metabolites

BT1: physiology

BT2: Life Sciences

RT: biomarkers

methods, laboratory

USE: laboratory methods

mice

BT1: mammals

BT2: vertebrates

BT3: animals

BT4: Organisms

micronucleus test \*

USE: bone marrow micronucleus assay

Microtox (R) \*

USE: bioluminescence assays

models, animal \*

USE: animal models

monkeys

BT1: nonhuman primates

BT2: mammals

BT3: vertebrates

BT4: animals

BT5: Organisms

RT: laboratory primates

RT: *Macaca fascicularis*

RT: *Macaca mulatta*

RT: *Macaca nemestrina*

morbidity

BT1: animal health

BT2: Animal Care and Welfare

NT1: ascites

mortality

BT1: animal health

BT2: Animal Care and Welfare

mouse lymphoma assay

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

RT: animal cell lines

murine local lymph node assay \*

USE: local lymph node assay

mutagenicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

RT: Ames test

mutants

BT1: genetics

BT2: Life Sciences

NT1: knockout mutants

Mutatox (R) assay \*

USE: bioluminescent bacterial genotoxicity test

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## N

nephrotoxicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

nest boxes

BT1: cages

BT2: animal housing

BT3: animal environment

BT4: Animal Care and Welfare

nestlets

BT1: environmental enrichment

BT2: animal environment

BT3: Animal Care and Welfare

neural networks

UF: artificial neural networks \*

BT1: computer software

BT2: Non-whole Animal Systems

neuroleptics \*

USE: tranquilizers

Neurospora crassa

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: fungi

neurotoxicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

neurotropic drugs

BT1: drugs

BT2: Product Testing and Toxicology

NT1: analgesics

NT1: anesthetics

NT2: general anesthetics

NT2: local anesthetics

NT1: opioids

NT1: sedatives

NT1: tranquilizers

newts

BT1: amphibians

BT2: vertebrates  
BT3: animals  
BT4: Organisms

no observed adverse effect level

UF: no observed effect level \*

UF: NOAEL \*

UF: NOEL \*

BT1: dosage

BT2: Biomedical and Laboratory Methods

no observed effect level \*

USE: no observed adverse effect level

NOAEL \*

USE: no observed adverse effect level

NOEL \*

USE: no observed adverse effect level

Non-whole Animal Systems

NT1: artificial skin

NT1: audiovisual aids

NT2: video technology

NT1: cadavers

NT1: computer software

NT2: computer automated structure evaluation

NT2: computer models

NT2: expert systems

NT2: interactive programs

NT2: neural networks

NT2: virtual reality

NT1: culture techniques

NT2: in vitro culture

NT3: cell culture

NT4: cloning (cells)

NT3: cell lines

NT4: animal cell lines

NT4: human cell lines

NT3: coculture

NT3: enrichment culture

NT3: explants

NT3: organ culture

NT3: ovule culture

NT3: tissue culture

NT4: embryo culture

NT4: human tissue cultures

NT1: equipment

NT2: bioreactors

NT2: laboratory equipment

NT3: hollow fiber reactors

- NT2: medical devices
- NT1: mannequins
- NT1: mathematical models
- NT2: estimation
- NT3: risk assessment
- NT1: nonanimal tests
- NT1: physical models
- NT2: plastinated models
- NT1: simulation
- NT1: validation

nonanimal tests

- BT1: laboratory tests
- BT2: Biomedical and Laboratory Methods
- BT1: Non-whole Animal Systems

nonhuman animals \*

- USE: animals

nonhuman primates

- BT1: mammals
- BT2: vertebrates
- BT3: animals
- BT4: Organisms
- NT1: chimpanzees
- NT1: monkeys
- RT: laboratory primates

normal values

- UF: baseline values \*
- BT1: statistics
- BT2: Biomedical and Laboratory Methods

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## O

ocular irritation test \*

- USE: eye irritation tests

oncogenicity

- USE: carcinogenicity

operating rooms

- UF: surgical suites \*
- BT1: animal housing
- BT2: animal environment
- BT3: Animal Care and Welfare

RT: surgery

opioids

BT1: neurotropic drugs

BT2: drugs

BT3: Product Testing and Toxicology

organ culture

BT1: in vitro culture

BT2: culture techniques

BT3: Biomedical and Laboratory Methods

BT3: Non-whole Animal Systems

Organisms

NT1: (taxonomic nomenclature)

NT2: *Anguilla anguilla*

NT2: *Brachydanio rerio*

NT2: *Daphnia magna*

NT2: *Drosophila melanogaster*

NT2: *Escherichia coli*

NT2: *Hyallolela azteca*

NT2: *Limulus polyphemus*

NT2: *Macaca fascicularis*

NT2: *Macaca mulatta*

NT2: *Macaca nemestrina*

NT2: *Neurospora crassa*

NT2: *Oryzias latipes*

NT2: *Pimephales promelas*

NT2: *Pseudomonas fluorescens*

NT2: *Rhizopus nigricans*

NT2: *Vibrio fischeri*

NT2: *Xenopus laevis*

NT1: algae

NT1: animals

NT2: animals in education

NT2: invertebrates

NT3: amphipods

NT3: cephalopods

NT3: earthworms

NT3: insects

NT3: macroinvertebrates

NT3: sea urchins

NT2: laboratory animals

NT3: germ-free animals

NT4: specific pathogen-free animals

NT3: laboratory mammals

NT4: laboratory primates

NT2: transgenic animals

NT2: vertebrates

NT3: amphibians

NT4: caecilians

- NT4: frogs
- NT5: tadpoles
- NT4: newts
- NT3: birds
- NT4: chickens
- NT4: pigeons
- NT3: fishes
- NT3: mammals
- NT4: cats
- NT4: dogs
- NT4: gerbils
- NT4: guinea pigs
- NT4: hamsters
- NT4: mice
- NT4: nonhuman primates
- NT5: chimpanzees
- NT5: monkeys
- NT4: rabbits
- NT4: rats
- NT3: reptiles
- NT1: bacteria
- NT1: fungi
- NT1: indicator species
- NT1: plants
- NT2: transgenic plants
- NT1: yeasts

organizations

- BT1: Human and Social Issues
- NT1: committees
- NT2: advisory committees
- NT3: Interagency Coordinating Committee on the Validation of Alternative Methods

Oryzias latipes

- UF: medaka \*
- BT1: (taxonomic nomenclature)
- BT2: Organisms
- RT: fishes

ovule culture

- BT1: in vitro culture
- BT2: culture techniques
- BT3: Biomedical and Laboratory Methods
- BT3: Non-whole Animal Systems

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## P

pain

UF: discomfort \*

BT1: animal welfare

BT2: Animal Care and Welfare

BT2: bioethics

BT3: ethics

BT4: philosophy

BT5: Human and Social Issues

RT: analgesia

pair housing

BT1: animal housing

BT2: animal environment

BT3: Animal Care and Welfare

RT: social enrichment

Pan troglodytes \*

USE: chimpanzees

patch test

BT1: skin irritancy tests

BT2: skin tests

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

pathogen free animals (complete) \*

USE: germ-free animals

pathogen-free animals (complete) \*

USE: germ-free animals

PCR \*

USE: polymerase chain reaction

pens

BT1: animal housing

BT2: animal environment

BT3: Animal Care and Welfare

people

BT1: Human and Social Issues

NT1: animal technicians

NT1: researchers

NT2: principal investigators

NT1: veterinarians

perches

BT1: cages

BT2: animal housing

BT3: animal environment

## BT4: Animal Care and Welfare

personal care products

BT1: products

BT2: Product Testing and Toxicology

pesticides

BT1: products

BT2: Product Testing and Toxicology

pharmacokinetics

BT1: biochemistry

BT2: Life Sciences

RT: pharmacology

pharmacology

BT1: Life Sciences

NT1: medicinal properties

NT2: analgesic effect

NT2: anti-inflammatory activity

RT: pharmacokinetics

pharmacotoxicity \*

USE: toxicity

philosophy

BT1: Human and Social Issues

NT1: ethics

NT2: bioethics

NT3: animal welfare

NT4: analgesia

NT4: animal preferences

NT4: animal stress

NT5: abiotic stress

NT6: cold stress

NT7: hypothermia

NT6: heat stress

NT5: distress

NT4: animal use refinement

NT4: animal well-being

NT4: death

NT5: euthanasia

NT6: asphyxiation

NT6: cervical dislocation

NT6: decapitation

NT4: distress

NT4: pain

photoirritation \*

USE: phototoxicity

phototoxicity

UF: photoirritation \*

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

physical models

BT1: Non-whole Animal Systems

NT1: plastinated models

physiology

BT1: Life Sciences

NT1: heat shock proteins

NT1: metabolites

NT1: susceptibility

pigeons

BT1: birds

BT2: vertebrates

BT3: animals

BT4: Organisms

pigtailed macaques \*

USE: *Macaca nemestrina*

Pimephales promelas

UF: fathead minnow \*

BT1: (taxonomic nomenclature)

BT2: Organisms

plane of anesthesia \*

USE: depth of anesthesia

plants

BT1: Organisms

NT1: transgenic plants

plastinated models

BT1: physical models

BT2: Non-whole Animal Systems

policy

BT1: Government, Law, and Regulations

RT: regulations

polymerase chain reaction

UF: PCR \*

BT1: genetics

BT2: Life Sciences

BT1: laboratory methods

BT2: Biomedical and Laboratory Methods

postoperative care

UF: postsurgical care \*

BT1: animal handling

BT2: animal husbandry

BT3: Animal Care and Welfare

RT: surgery

postsurgical care \*

USE: postoperative care

preanesthesia \*

USE: preoperative care

prediction

BT1: statistics

BT2: Biomedical and Laboratory Methods

preferences, animal \*

USE: animal preferences

preoperative care

UF: preanesthesia \*

BT1: animal handling

BT2: animal husbandry

BT3: Animal Care and Welfare

RT: surgery

principal investigators

BT1: researchers

BT2: people

BT3: Human and Social Issues

product properties

BT1: products

BT2: Product Testing and Toxicology

NT1: biocompatibility

NT1: irritant properties

product testing

BT1: Product Testing and Toxicology

NT1: cosmetics testing

NT1: drug testing

Product Testing and Toxicology

NT1: drugs

NT2: anti-inflammatory drugs

NT2: neurotropic drugs

NT3: analgesics

NT3: anesthetics

NT4: general anesthetics

NT4: local anesthetics  
NT3: opioids  
NT3: sedatives  
NT3: tranquilizers  
NT1: efficacy testing  
NT1: product testing  
NT2: cosmetics testing  
NT2: drug testing  
NT1: products  
NT2: cosmetics  
NT2: household products  
NT2: medical devices  
NT2: medical materials  
NT2: personal care products  
NT2: pesticides  
NT2: product properties  
NT3: biocompatibility  
NT3: irritant properties  
NT1: safety testing  
NT1: screening  
NT1: toxicology  
NT2: toxic substances  
NT3: endotoxins  
NT2: toxicity  
NT3: acute toxicity  
NT4: acute dermal toxicity  
NT4: acute inhalation toxicity  
NT4: acute oral toxicity  
NT4: dermal sensitization  
NT4: eye irritation  
NT4: skin irritation  
NT3: carcinogenicity  
NT3: chronic toxicity  
NT3: cytotoxicity  
NT3: drug toxicity  
NT3: ecotoxicity  
NT3: embryotoxicity  
NT3: genotoxicity  
NT3: hepatotoxicity  
NT3: mutagenicity  
NT3: nephrotoxicity  
NT3: neurotoxicity  
NT3: phototoxicity  
NT3: subacute toxicity  
NT3: subchronic toxicity  
NT3: sublethal effects  
NT3: teratogenicity  
NT2: toxigenesis

products

BT1: Product Testing and Toxicology

NT1: cosmetics  
NT1: household products  
NT1: medical devices  
NT1: medical materials  
NT1: personal care products  
NT1: pesticides  
NT1: product properties  
NT2: biocompatibility  
NT2: irritant properties

protocol review

BT1: Institutional Animal Care and Use Committees

*Pseudomonas fluorescens*

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: bacteria

psychological stress \*

USE: distress

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## Q

QSAR \*

USE: quantitative structure activity relationships

quantitative structure activity relationships

UF: QSAR \*

BT1: structure activity relationships

BT2: biochemistry

BT3: Life Sciences

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## R

rabbits

BT1: mammals

BT2: vertebrates

BT3: animals

BT4: Organisms

radio frequency identification

UF: RFID (radio frequency identification) \*

BT1: animal identification  
BT2: animal husbandry  
BT3: Animal Care and Welfare

rats

BT1: mammals  
BT2: vertebrates  
BT3: animals  
BT4: Organisms

reduction, animal testing \*

USE: animal use reduction

refinement, animal testing \*

USE: animal use refinement

regulations

BT1: Government, Law, and Regulations  
RT: guidelines  
RT: legislation  
RT: policy  
RT: standards

replacement, animal testing \*

USE: animal use replacement

reptiles

BT1: vertebrates  
BT2: animals  
BT3: Organisms

researchers

BT1: people  
BT2: Human and Social Issues  
NT1: principal investigators

restraint of animals

BT1: animal handling  
BT2: animal husbandry  
BT3: Animal Care and Welfare

RFID (radio frequency identification) \*

USE: radio frequency identification

rhesus monkeys \*

USE: *Macaca mulatta*

*Rhizopus nigricans*

BT1: (taxonomic nomenclature)  
BT2: Organisms  
RT: yeasts

risk assessment

BT1: estimation

BT2: mathematical models

BT3: Non-whole Animal Systems

BT2: statistics

BT3: Biomedical and Laboratory Methods

RT: screening

RNA

BT1: genetics

BT2: Life Sciences

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## S

safety testing

BT1: Product Testing and Toxicology

saphenous vein puncture

BT1: blood sampling

BT2: animal handling

BT3: animal husbandry

BT4: Animal Care and Welfare

Science Education

NT1: animals in education

NT1: veterinary education

screening

BT1: Product Testing and Toxicology

RT: risk assessment

sea urchins

BT1: invertebrates

BT2: animals

BT3: Organisms

sedatives

BT1: neurotropic drugs

BT2: drugs

BT3: Product Testing and Toxicology

shade

BT1: animal environment

BT2: Animal Care and Welfare

simulation

BT1: Non-whole Animal Systems

RT: animal use replacement

RT: mathematical models

skin corrosivity tests \*

USE: skin irritancy tests

skin irritancy tests

UF: Corrositex (R) \*

UF: dermal irritancy tests \*

UF: skin corrosivity tests \*

BT1: skin tests

BT2: laboratory tests

BT3: Biomedical and Laboratory Methods

NT1: patch test

RT: eye irritation tests

skin irritation

UF: dermal irritation \*

BT1: acute toxicity

BT2: toxicity

BT3: toxicology

BT4: Product Testing and Toxicology

skin prick test

BT1: skin tests

BT2: laboratory tests

BT3: Biomedical and Laboratory Methods

skin sensitization \*

USE: dermal sensitization

skin tests

BT1: laboratory tests

BT2: Biomedical and Laboratory Methods

NT1: skin irritancy tests

NT2: patch test

NT1: skin prick test

SMART assay \*

USE: somatic mutation and recombination assay

social behavior

BT1: animal behavior

BT2: Life Sciences

NT1: social dominance

NT1: social facilitation

social dominance

BT1: social behavior

BT2: animal behavior

BT3: Life Sciences

social enrichment

BT1: environmental enrichment

BT2: animal environment

BT3: Animal Care and Welfare

RT: pair housing

social facilitation

BT1: social behavior

BT2: animal behavior

BT3: Life Sciences

somatic mutation and recombination assay

UF: SMART assay \*

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

SOP \*

USE: standard operating procedures

space requirements \*

USE: animal space requirements

specific pathogen-free animals

BT1: germ-free animals

BT2: laboratory animals

BT3: animals

BT4: Organisms

standard operating procedures

UF: SOP \*

BT1: standards

BT2: Government, Law, and Regulations

RT: animal handling

standards

BT1: Government, Law, and Regulations

NT1: codes of practice

NT1: standard operating procedures

RT: regulations

statistics

BT1: Biomedical and Laboratory Methods

NT1: estimation

NT2: risk assessment

NT1: normal values

NT1: prediction

RT: experimental design

stem cells

BT1: cells

BT2: Life Sciences

NT1: embryonic stem cells

stereotyped behavior

UF: stereotypic behavior \*

UF: stereotypies \*

BT1: abnormal behavior

BT2: animal behavior

BT3: Life Sciences

stereotypic behavior \*

USE: stereotyped behavior

stereotypies \*

USE: stereotyped behavior

stocking density \*

USE: stocking rate

stocking rate

UF: animal density \*

UF: cage density \*

UF: stocking density \*

BT1: animal housing

BT2: animal environment

BT3: Animal Care and Welfare

BT1: animal husbandry

BT2: Animal Care and Welfare

RT: animal space requirements

strain differences

BT1: genetics

BT2: Life Sciences

RT: strains

strains

BT1: breeding

BT2: Life Sciences

RT: lines

RT: strain differences

stress, abiotic \*

USE: abiotic stress

stress, psychological \*

USE: distress

structure activity relationships

BT1: biochemistry

BT2: Life Sciences

NT1: quantitative structure activity relationships

RT: computer automated structure evaluation

subacute toxicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

subchronic toxicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

SN: The adverse effects occurring as a result of the repeated daily dosing of a chemical to experimental animals for part (not exceeding 10 per cent) of the life span.

sublethal effects

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

sublingual vein puncture

BT1: blood sampling

BT2: animal handling

BT3: animal husbandry

BT4: Animal Care and Welfare

surgery

BT1: animal experiments

BT2: Biomedical and Laboratory Methods

BT1: animal handling

BT2: animal husbandry

BT3: Animal Care and Welfare

NT1: laser surgery

RT: operating rooms

RT: postoperative care

RT: preoperative care

surgical suites \*

USE: operating rooms

susceptibility

BT1: physiology

BT2: Life Sciences

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# T

## tadpoles

BT1: frogs

BT2: amphibians

BT3: vertebrates

BT4: animals

BT5: Organisms

## techniques, laboratory

USE: laboratory methods

## teratogenicity

BT1: toxicity

BT2: toxicology

BT3: Product Testing and Toxicology

## testing, laboratory \*

USE: laboratory tests

## tissue culture

BT1: in vitro culture

BT2: culture techniques

BT3: Biomedical and Laboratory Methods

BT3: Non-whole Animal Systems

NT1: embryo culture

NT1: human tissue cultures

## toxic substances

BT1: toxicology

BT2: Product Testing and Toxicology

NT1: endotoxins

## toxicity

UF: pharmacotoxicity \*

BT1: toxicology

BT2: Product Testing and Toxicology

NT1: acute toxicity

NT2: acute dermal toxicity

NT2: acute inhalation toxicity

NT2: acute oral toxicity

NT2: dermal sensitization

NT2: eye irritation

NT2: skin irritation

NT1: carcinogenicity

NT1: chronic toxicity

NT1: cytotoxicity

NT1: drug toxicity

NT1: ecotoxicity

- NT1: embryotoxicity
- NT1: genotoxicity
- NT1: hepatotoxicity
- NT1: mutagenicity
- NT1: nephrotoxicity
- NT1: neurotoxicity
- NT1: phototoxicity
- NT1: subacute toxicity
- NT1: subchronic toxicity
- NT1: sublethal effects
- NT1: teratogenicity

toxicology

- BT1: Product Testing and Toxicology
- NT1: toxic substances
  - NT2: endotoxins
- NT1: toxicity
  - NT2: acute toxicity
    - NT3: acute dermal toxicity
    - NT3: acute inhalation toxicity
    - NT3: acute oral toxicity
    - NT3: dermal sensitization
    - NT3: eye irritation
    - NT3: skin irritation
  - NT2: carcinogenicity
  - NT2: chronic toxicity
  - NT2: cytotoxicity
  - NT2: drug toxicity
  - NT2: ecotoxicity
  - NT2: embryotoxicity
  - NT2: genotoxicity
  - NT2: hepatotoxicity
  - NT2: mutagenicity
  - NT2: nephrotoxicity
  - NT2: neurotoxicity
  - NT2: phototoxicity
  - NT2: subacute toxicity
  - NT2: subchronic toxicity
  - NT2: sublethal effects
  - NT2: teratogenicity
- NT1: toxigenesis

toxigenesis

- BT1: toxicology
- BT2: Product Testing and Toxicology

training (animals)

- UF: animal training \*
- UF: training of animals \*
- BT1: animal husbandry
- BT2: Animal Care and Welfare

training of animal technicians  
BT1: Animal Care and Welfare  
RT: animal technicians

training of animals \*  
USE: training (animals)

tranquilizers  
UF: anti-anxiety agents \*  
UF: anxiolytics \*  
UF: neuroleptics \*  
BT1: neurotropic drugs  
BT2: drugs  
BT3: Product Testing and Toxicology

transgenic animals  
BT1: animals  
BT2: Organisms

transgenic plants  
BT1: plants  
BT2: Organisms

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## U

up-and-down method  
BT1: animal tests  
BT2: laboratory tests  
BT3: Biomedical and Laboratory Methods  
RT: acute oral toxicity

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## V

validation  
BT1: Non-whole Animal Systems  
RT: experimental design  
RT: Interagency Coordinating Committee on the Validation of Alternative Methods

ventilation and air circulation  
BT1: animal environment  
BT2: Animal Care and Welfare

vertebrates

BT1: animals

BT2: Organisms

NT1: amphibians

NT2: caecilians

NT2: frogs

NT3: tadpoles

NT2: newts

NT1: birds

NT2: chickens

NT2: pigeons

NT1: fishes

NT1: mammals

NT2: cats

NT2: dogs

NT2: gerbils

NT2: guinea pigs

NT2: hamsters

NT2: mice

NT2: nonhuman primates

NT3: chimpanzees

NT3: monkeys

NT2: rabbits

NT2: rats

NT1: reptiles

veterinarians

BT1: people

BT2: Human and Social Issues

veterinary education

BT1: Science Education

Vibrio fischeri

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: bacteria

video technology

BT1: audiovisual aids

BT2: Non-whole Animal Systems

virtual reality

BT1: computer software

BT2: Non-whole Animal Systems

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## W

water deprivation

BT1: animal feeding

BT2: animal husbandry

BT3: Animal Care and Welfare

well-being, animal

USE: animal well-being

whistleblowing

BT1: Institutional Animal Care and Use Committees

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## X

Xenopus laevis

BT1: (taxonomic nomenclature)

BT2: Organisms

RT: frog embryo teratogenesis assay--Xenopus

RT: frogs

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## Y

yeast mutagenicity assay

BT1: bioassays

BT2: assays

BT3: laboratory tests

BT4: Biomedical and Laboratory Methods

yeasts

BT1: Organisms

RT: Rhizopus nigricans

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## Z

zebrafish \*

USE: Brachydanio rerio

zoonoses

BT1: Human and Social Issues

Last Updated 8/8/05