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Consensus Preclinical Checklist (PRECHECK): Experimental Conditions – Rodent Disclosure Checklist

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**Abstract:**

These guidelines follow the recommendation of a number of external bodies to regulate the use of animals in research. They can be used both for transparency in publication, and in this sense they extend what is being requested by journals, or for regulatory or funding institutions, to request information prior, during, or after funding, and to ensure adherence to regulations.

This checklist focuses on the use of rodents in research. Other species (such as marine mammals, primates, or invertebrates) will be covered in future separated checklists.

This checklist is based on and extends the following guidelines: Animals in Research Ethical Guidelines, Guidance for the Description of Animal Research in Scientific Publications, Animals Welfare Act, and ARRIVE guidelines.

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## **Consensus Preclinical Checklist (PRECHECK) Experimental Conditions – Rodent Disclosure Checklist**

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This checklist focuses on the use of rodents in research. Other species (such as marine mammals, primates, or invertebrates) will be covered in future separated checklists.

This checklist is based on and extends the following guidelines:

- *Animals in Research Ethical Guidelines:*  
<http://www.apa.org/science/leadership/care/guidelines.aspx>
- *Guidance for the Description of Animal Research in Scientific Publications*  
<http://www.ncbi.nlm.nih.gov/books/NBK84205/>
- *Animal Welfare Act (7 U.S.C. §2131 et. seq.) and applicable federal regulations, policies, and guidelines, regarding personnel, supervision, record keeping, and veterinary care.*  
[https://www.aphis.usda.gov/animal\\_welfare/downloads/Animal%20Care%20Blue%20Book%20-%202013%20-%20FINAL.pdf](https://www.aphis.usda.gov/animal_welfare/downloads/Animal%20Care%20Blue%20Book%20-%202013%20-%20FINAL.pdf)
- *ARRIVE guidelines*  
<https://www.nc3rs.org.uk/arrive-guidelines>

### **A- Background of Experimental Model (include each line used)**

1. Rodent Model
  - 1.1. Model name
2. Genetic background
  - 2.1. Standard name
  - 2.2. Original and current parental strain
  - 2.3. Number of backcrosses from original to current
3. Genetic manipulation
  - 3.1. Knockout/Transgenic
  - 3.2. Constitutive/inducible
  - 3.3. Cree line name
  - 3.4. Doxycycline/Tamoxifen
4. Experience
  - 4.1. Drug naïve (Y/N; if Y state drug)
  - 4.2. Previous procedures
  - 4.3. Source of animals If obtained from other facility

- 4.3.1. Source name
- 4.3.2. Age when received
- 4.3.3. Health/immune status
- 4.4. In-house colony
  - 4.4.1. Breeding/husbandry
  - 4.4.2. Breeding scheme (state female genotype first)
  - 4.4.3. Duos/trios
  - 4.4.4. Are all animals littermates (Y/N)
  - 4.4.5. How many cohorts planned for each study
  - 4.4.6. How far apart are the cohorts
  - 4.4.7. Are all experimental groups equally represented in all cohorts (Y/N)
  - 4.4.8. How often are breeders refreshed
  - 4.4.9. DOB checks frequency
  - 4.4.10. Sexing age
  - 4.4.11. Weaning
    - 4.4.11.1. Age at weaning
    - 4.4.11.2. Are litters mixed at weaning? (Y/N; if Y then how)
  - 4.4.12. Culling
    - 4.4.12.1. Min/max litter number
    - 4.4.12.2. Age at culling
  - 4.4.13. Runt usage
- 5. Age
  - 5.1. at start/end of treatment
  - 5.2. at start/end of in vivo assessment
- 6. Body weight
  - 6.1. at start/end of treatment
  - 6.2. at start/end of vivo assessment

## **B- Experimental Details**

- 1. Sex ratio used/intended for experimental groups
- 2. Habituation to vivarium period if from external source (days)
- 3. Assignment to experimental groups
  - 3.1. Randomization method
  - 3.2. Matching for group assignment (name variable matched)
  - 3.3. Procedures to minimize bias (litter/cohort/cage/treatment order)
  - 3.4. SOPs available (Y/N)
- 4. Experimenter blindness scheme

- 4.1. Procedures to keep injections/treatments blind
- 4.2. Procedures to keep in vivo experimenter blind
- 4.3. Blinding code, coding and decoding timeline
- 4.4. SOPs available (Y/N)
5. Training
  - 5.1. Are experimenters trained and certified in each procedure?
    - 5.1.1. Method
    - 5.1.2. How often is certification repeated?
6. Sample
  - 6.1. Size
  - 6.2. Power analysis conducted for each measure for each test
7. Experimental protocols for each test
  - 7.1. Description
  - 7.2. Tests order and rational
  - 7.3. Habituation to testing room
  - 7.4. SOPs available (Y/N)
8. Food/water access (description)
9. Data processing and analysis
  - 9.1. QC methods
  - 9.2. Primary and secondary measures for each test
  - 9.3. Analysis for each measure for each test
  - 9.4. Check if data meets the statistical test assumptions
  - 9.5. Treatment of outliers
  - 9.6. Experimental unit of analysis (animal/cage/litter)
  - 9.7. Notebooks and data storage
10. Drug preparation
  - 10.1. Vehicle name and preparation
  - 10.2. Doses and rational
  - 10.3. Volume
  - 10.4. Route of administration
  - 10.5. Pretreatment time
  - 10.6. Drug storage (cold/dark/registration method)
11. Anesthesia method and monitoring
12. Euthanasia method and monitoring
13. Genotyping tissue collection
  - 13.1. Age
  - 13.2. Method
  - 13.3. Is regenotyping done at the end of the study? (Y/N)

13.3.1. If regenotyping is inconsistent, what happens to the data?

13.3.2. Are tail samples kept for regenotyping if needed (Y/N)

14. ID method

14.1. ID check frequency and method

15. Sample collection, frequency and preparation

15.1. Manufacturer and catalog number for all reagents

15.2. SOPs available (Y/N)

**C- Facility**

1. Microbial/Pathogen status (if specific pathogen free [SPF], specify pathogens)

2. Housing

2.1. Caging type

2.1.1. What is the light difference between the top shelf and the bottom. Do you control position of the cages

2.2. Sterile cage

2.3. Ventilated rack

2.4. How many animals/cage

2.4.1. If mice are isolated, do you know/test the effect of isolation in a cold environment?

2.5. Are cages homogeneous for genotype? (Y/N; if N and route is p.o. explain why)

2.6. Are animals regrouped at any time? (Y/N; if Y at what age)

3. Enrichment

3.1. Type of bedding

3.2. Toys

3.3. Shredded paper (Y/N)

3.4. Igloos/shepherd shack

3.5. Handling

4. Light/dark cycle

5. Temperature

6. Humidity

7. Chow

8. Water (acidified/tap/distilled/autoclaved/filtered)

9. Air exchange

10. Husbandry

10.1. Cage changes/week

10.2. Health checks/week

11. Health reports from facility (2 years)

12. If mice come from external source, quarantine procedure
13. Personal protective equipment
14. Music allowed in vivarium or experimental rooms (Y/N)
15. SOPs available (Y/N)

#### **D- Protocol**

1. IACUC approval number & date

#### **E- Equipment**

1. Describe major equipment
  - 1.1. Vendor
  - 1.2. Calibration
    - 1.2.1. Method
    - 1.2.2. Frequency

### **Agencies following or recommending PRECHECK**



WE'LL GIVE  
**EVERYTHING.**  
BUT UP.



*Version: PreCheck\_20170110*  
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