**Artificial Intelligence Review Committee (AIRC)**

**Animal Research - Streamlined Rubric**

Version: 2.0 (December 2025)

Use this rubric for: Standard animal research using validated AI tools or established methodologies.

**Administrative Information**

| **Field** | **Information** |
| --- | --- |
| Protocol Number | [blank line] |
| Principal Investigator | [blank line] |
| Project Title | [blank line] |
| Date of Review | [blank line] |
| AIRC Reviewer(s) | [blank line] |
| AI Tool/Model Name and Version | [blank line] |
| Animal Species | [blank line] |
| IACUC Status | ☐ New ☐ Modification ☐ Continuing Review |

**Instructions for Reviewers**

* Rate each domain on a 1-4 scale
* Use N/A if item does not apply (justify)
* Select "Insufficient Documentation" if unable to score
* Critical Rule: Score of 1 in any domain = "Not Acceptable"

**Domain 1: Scientific Validity & Justification**

Purpose: Ensure AI methodology is scientifically sound and appropriate.

Scoring Criteria

| **Score** | **Description** |
| --- | --- |
| 4 - Exemplary | AI methodology optimally matched to research question, complete data provenance, performance metrics exceed standards, clear superiority over alternatives, comprehensive methods documentation |
| 3 - Proficient | AI approach appropriate and justified, data sources documented, performance metrics acceptable, scientific rationale provided, methods adequately described |
| 2 - Basic | AI method applicable but limited rationale, data sources identified but incomplete, limited validation, weak justification versus alternatives |
| 1 - Deficient | AI approach unsuitable, poor data quality, missing performance metrics, no scientific justification, insufficient methods documentation |

Reviewer Assessment

| **Item** | **Rating** | **Comments** |
| --- | --- | --- |
| Domain 1 Score (1-4) | [blank] | [blank area for comments] |
| ☐ N/A - Justification: |  |  |
| ☐ Insufficient Documentation |  |  |

**Domain 2: Animal Welfare & 3Rs**

Purpose: Ensure animal welfare is protected and 3Rs principles are applied.

Scoring Criteria

| **Score** | **Description** |
| --- | --- |
| 4 - Exemplary | AI demonstrably advances replacement strategies, significant reduction in animal numbers, clear refinement benefits, enhanced welfare monitoring, and comprehensive veterinary oversight. |
| 3 - Proficient | AI contributes to one or more 3Rs, reasonable animal number justification, refinement benefits documented, standard welfare procedures, and appropriate veterinary oversight. |
| 2 - Basic | Limited 3Rs impact, animal numbers justified, but no reduction, minimal refinement benefits, basic welfare procedures |
| 1 - Deficient | No 3Rs consideration, excessive animal numbers, no refinement or increased distress risk, inadequate welfare procedures |

Reviewer Assessment

| **Item** | **Rating** | **Comments** |
| --- | --- | --- |
| Domain 2 Score (1-4) | [blank] | [blank area for comments] |
| ☐ N/A - Justification: |  |  |
| ☐ Insufficient Documentation |  |  |

**Domain 3: Harm Minimization & Safety**

Purpose: Ensure AI-driven procedures do not cause unnecessary harm.

Scoring Criteria

| **Score** | **Description** |
| --- | --- |
| 4 - Exemplary | All AI risks thoroughly identified with mitigation, multi-layered safety mechanisms, strong human oversight with intervention protocols, comprehensive error analysis with contingencies, and an active monitoring system |
| 3 - Proficient | Major AI risks identified, safety mechanisms for critical procedures, human oversight defined, error scenarios with basic contingencies, and a monitoring plan documented |
| 2 - Basic | Some AI risks identified, limited safety mechanisms, vague oversight, minimal error consideration, and basic monitoring |
| 1 - Deficient | AI risks not identified, no safety mechanisms, no human oversight, no error contingencies, no monitoring plan |

Reviewer Assessment

| **Item** | **Rating** | **Comments** |
| --- | --- | --- |
| Domain 3 Score (1-4) | [blank] | [blank area for comments] |
| ☐ N/A - Justification: |  |  |
| ☐ Insufficient Documentation |  |  |

**Domain 4: Transparency & Documentation**

Purpose: Ensure AI is appropriately documented and reproducible.

Scoring Criteria

| **Score** | **Description** |
| --- | --- |
| 4 - Exemplary | Algorithm fully specified with version control, performance metrics thoroughly reported with validation, formal change management, complete methods enabling replication, and enterprise-grade data security |
| 3 - Proficient | Algorithm and version documented with rationale, performance metrics reported, version tracking in place, methods adequately described and appropriate data security |
| 2 - Basic | Algorithm identified with limited detail, basic performance metrics, minimal version control, methods description incomplete, basic security |
| 1 - Deficient | Algorithm unclear, missing performance metrics, no version control, methods inadequate, inadequate data security |

Reviewer Assessment

| **Item** | **Rating** | **Comments** |
| --- | --- | --- |
| Domain 4 Score (1-4) | [blank] | [blank area for comments] |
| ☐ N/A - Justification: |  |  |
| ☐ Insufficient Documentation |  |  |

**Final Score Calculation and Recommendation**

Score Summary

| **Domain** | **Score (1-4)** |
| --- | --- |
| Domain 1: Scientific Validity & Justification | [blank] |
| Domain 2: Animal Welfare & 3Rs | [blank] |
| Domain 3: Harm Minimization & Safety | [blank] |
| Domain 4: Transparency & Documentation | [blank] |
| Total Score (Range: 4-16) | [blank] |

**Critical Deficiency Rule**

| **Check if applicable** |  |
| --- | --- |
| ☐ One or more domains scored 1 | *(If checked, Final Recommendation MUST be "NOT ACCEPTABLE")* |

**Final Recommendation**

Select One:

☐ ACCEPTABLE - Forward to IACUC with approval recommendation

☐ MODIFICATIONS REQUIRED - Return to submitter with feedback below

☐ NOT ACCEPTABLE - Reject; major revision required

Required Modifications (if applicable):

[Large blank area]

**Overall Summary**

Strengths:

[Blank area]

Concerns:

[Blank area]

Additional Comments:

[Blank area]

**Signatures**

| **Role** | **Signature** | **Date** |
| --- | --- | --- |
| Reviewer | [blank line] | [blank line] |
| AIRC Chair/Designee | [blank line] | [blank line] |