Outline for the QUALIFICATON PLAN

A Qualification Plan (QP) submitted to the Animal Model Qualification Program is a stand-alone submission package and should contain the following information in the format as outlined. The document should be in the form of a searchable pdf file and information sources (e.g., publication, website) should be cited using in-text numbers and a reference list at the end of the document.

Note that the italicized information will be posted publicly under Section 507 of the Federal Food, Drug, and Cosmetic Act, which was created by Section 3011 of the 21st Century Cures Act. The information submitted in these sections will be copied verbatim and, therefore, should read as a stand-alone section and should not refer to other sections of the QP that will not be posted publicly.

Requestor Institution Information

1. *Name*
2. *Address*
3. *Phone number*
4. *Fax number*

Primary Contact Information

1. Name
2. Role (e.g., Project Manager, Consultant, Primary Investigator)
3. Address
4. Phone number
5. Phone number (alternate)
6. Fax
7. Email address

Alternate Contact Information (optional)

1. Name
2. Role (e.g., Project Manager, Consultant, Primary Investigator)
3. Address
4. Phone number
5. Phone number (alternate)
6. Fax
7. Email address

Key Elements

1. *Animal model qualification project number*
2. *Title of animal model qualification project*
3. *Proposed context of use statement*

4. *Animal species*
5. *Challenge agent*
6. *Route of exposure to challenge agent*
7. *Intended use in therapeutic development (i.e., pre-exposure, post-exposure, mitigation, treatment) – choose all that apply*

Background Information

1. *Introduction (500 words) – This should be in abstract form. Describe the human disease or condition and the corresponding animal model. Include the following information:*
    a. *The etiologic and challenge agents*
    b. *Historical information regarding the existence of animal models for this disease or condition (e.g., there are no models available, there are multiple models)*
    c. *The importance of developing this animal model*
    d. *The intended use of this animal model in drug development*

2. Human disease or condition (1000 words) – This should be a brief summary of the human disease or condition, including the identification of key features. Identify gaps in understanding the human disease or condition. Include the following information, if available:
    a. Etiologic agent
    b. Route(s) of exposure
    c. Characteristics of the disease or condition (e.g., time course, signs/symptoms, gross and microscopic lesions)
    d. Justification for the use of the Animal Rule regulatory pathway for the approval/licensure of drugs for this disease or condition

3. Animal model (1000 words) – This should be a brief summary of the proposed animal model. Include the following information, if available:
    a. Characteristics of the animal including but not limited to genus/species/strain, sex, age, and weight
    b. Characterization of the challenge agent
    c. Method/route of exposure
    d. Characteristics of the disease or condition (e.g., time course, signs, gross and microscopic lesions)
    e. Primary and secondary endpoints
    f. Proposed types of data to be collected (e.g., observational, clinical chemistry, hematology, pathology)

4. Comparability of the key features of the human disease or condition and the proposed animal model – Include discussion of similarities and differences. Provide this information as a table.

Characteristics of the Data

1. Indicate the type of data that will be submitted to support the proposed context of use. Choices include:
    a. Data from completed studies
    b. Data from planned studies
    c. Combination

2. Studies submitted to support qualification may be subject to FDA inspection. Will data submitted be from studies available for inspection? Choices include:
    a. Yes
    b. No
    c. Combination (i.e., some data available for inspection and some data are not)
    d. Unknown

3. Will data submitted be from studies conducted in accordance with GLP regulations? Choices include:
    a. Yes
    b. No
    c. Combination

4. Will data submitted be from studies conducted outside of the United States? Choices include:
    a. Yes
    b. No
    c. Combination

Data Collection Plan

The plan should summarize the studies necessary to provide sufficient data to support qualification. These data should include, but may not be limited to, that necessary to:

- Characterize the animal subjects
- Characterize the challenge agent
- Characterize the route of exposure
- Determine the dose of the challenge agent to be used
- Characterize the animal subjects' response to the challenge agent (e.g., signs, alteration in physiological values, lesion development)
- Identify primary and secondary endpoints that might be useful in well-characterized and controlled efficacy studies
- Identify features that can provide quality control checks

- Provide an estimate of the repeatability and reproducibility of the model

It is not expected that exact protocols be available for all studies, as later stages of model development are expected to build on what is learned in earlier stages.

1. Are additional human data (from new studies or additional analysis of the disease/condition in humans) available? Data of particular interest include, but are not limited to, information regarding:
    a. Characterization of the etiologic agent
    b. Mechanisms of disease/condition development
    c. Clinical course of disease/condition
    d. Standard supportive care

    If so, summarize how this data will be incorporated into model development. Recent publications or reference material may be attached in an Appendix.

2. Summarize any animal data that will be used to support qualification that are collected from outside sources (e.g., scientific literature, published conference proceedings). Publications or reference material may be attached in an Appendix.

3. Are preliminary or proof-of-concept studies necessary (e.g., verification of host susceptibility, hypothesis-testing studies regarding pathogenesis or pathophysiology)? If so, summarize each study. Complete protocols, if available, may be attached in an Appendix.

4. Does the challenge agent require additional characterization (e.g., production of stock cultures, sequencing, certified analysis, mechanistic studies to determine pathophysiological mechanisms)? If so, summarize each study. Complete protocols, if available, may be attached in an Appendix.

5. Are additional feasibility studies required (e.g., comparison of routes of exposure, verification of virulence or toxicity)? If so, summarize each study. Complete protocols, if available, may be attached in an Appendix.

6. Do additional assays need to be developed to evaluate/use the animal model (e.g., immunological assays to measure host response to infectious agent)? If so, summarize each study. Complete protocols, if available, may be attached in an Appendix.

7. Summarize the studies conducted to determine the dose response of animals to the challenge agent. These studies should use the chosen route of exposure and should assess multiple challenge doses in order to adequately characterize the slope of the exposure curve.

8. Summarize initial studies designed to determine if the model approximates the human disease/condition based on criteria pre-selected to be critical. Complete protocols, if available, may be attached in an Appendix.

9. Summarize timed/serial sacrifice studies designed to document how the disease/condition progresses from time of challenge to the time the animals die or recover. Time points to examine should be based on data collected from previous studies. Complete protocols, if available, may be attached in an Appendix.

10. Summarize the definitive natural history studies designed to precisely define the parameters of the model. These studies should be based on data (including euthanasia criteria and any needed supportive care) collected from previous studies. Complete protocols, if available, may be attached in an Appendix.

11. Summarize any additional studies conducted that will be incorporated into the model development plan to support qualification. Complete protocols, if available, may be attached in an Appendix.

12. How will the planned studies demonstrate repeatability and reproducibility of the model?

13. Provide an expected timeline for model development. This may be attached as an Appendix.

Scientific Expertise and Resources

List the individuals responsible for the scientific development of the model and provide proof of expertise. Selected CVs may be included in an Appendix. Additionally, briefly describe the facilities and resources available to support development of the planned model.

Additional Sections (as needed)

1. Questions for FDA

2. References

3. Attachments – Attach copies of most relevant publications (maximum 10)

4. Appendices