动物实验方案撰写指南

Guidance for the Preparation of an Animal Use Protocol

本内容指导动物实验方案的撰写。

The following guidance is offered to assist you in completing an Animal Use Protocol (AUP).

Part 1: The Protocol Form

管理数据 Administrative Data

请根据方案请款填写真实信息。Please fill in the true information according to the program request.

研究团队要求 Study Team Requirements

研究中所有操作动物的人员都必须在方案中列出。并列出团队中每个成员将在 AUP 上执行的特定活动。为了节省时间，减少方案被延迟的机会，IACUC 鼓励研究组尽快完成以下要求：Everyone handling animals for the purpose of animal research must be listed on an IACUC protocol. Be sure to indicate the specific activity each member of the team will perform on the AUP. To be on a protocol, there are several items that need to be completed. To save time and decrease the chance of the protocol being delayed in review, the IACUC encourages people to complete the following requirements as soon as possible:

- 注册 **Registering to eProtocol**– 方案提交时需要列出所有参与人员，被列出的参与人员才可在系统中注册账号并浏览方案以及参与其他方案的工作。In order for any individual to be listed on an Animal Use Protocol they must be provisioned an account in e-Protocol by completing the e-Protocol registration. Individuals who have not registered will not have access to e-Protocol and will not be available for selection as study team members in the system. Registration can be completed at: e-Protocol

- 资格及培训 **Animal Usage Orientation and Occupational Health and Safety Training**–每个参与动物实验方案的人员必须获得动物使用和护理以及使用与动物使用有关的危险生物制剂和材料的基本能力。实验动物中心提供材料及基本培训。培训必须每三年更新一次。且要完成在线课程，必须在课程测验中获得至少 90%的总分。Each individual involved in an Animal Use Protocol must obtain a basic level of competency in animal use and care and in the use of hazardous biological agents and materials associated with animal use. The online course that satisfies this requirement, Working with the IACUC, is provided by the ASC. This training must be updated no less than every three years. To complete the online course, an aggregate score of at least 90% must be obtained on the course quizzes.

- 职业健康 **Registry into the Occupational Health Program**–参与动物使用方案的每个人都必须完成初步的风险评估，参加职业健康计划。风险评估应该随着与工作相关的责任的改变而更新。Each individual involved in an Animal Use Protocol must enroll in the Occupational Health Program by completing an initial risk assessment. Risk assessments should be updated as work-related responsibilities change.

动物情况 Animal Requirements

填写动物需求情况包括：Fill in the requirements for animals including:

动物来源 Animal Sources
供应商或自行繁育 name of vendor or breeder, or bred in-house]

要求使用动物数量的理由 Justification for Number of Animals Requested
Make it EASY for the Committee to understand!

- 解释群体规模的原因（已公布的结果，基于以前的测量差异的统计分析等）。正在应用统计测试的状态（例如，功率分析）。如使用已发表的结果，请包含一个或两个引用。Explain reasons for group size (published results, statistical analysis based on previous established difference in measurements etc.). State which statistical tests are being applied (e.g., power analysis). If you are using published results, include one or two references.

- 明确定义动物的数量（例如，5 个动物/组 x 3 治疗 x 4 个时间点 x 2 个不同的性别 =120 只动物）。定义组，包括控制，治疗，时间点，等等。Clearly define the number

of animals (e.g. 5 animals/group x 3 treatments x 4 time points x 2 different sexes = 120 animals). Define the groups, including controls, treatments, time points, etc.

- 对于较复杂的方案，相同的动物或动物的子集被用于多个实验，可使用表格和/或流程图解释。When you have a complex protocol, in which the same animals or subsets of animals are used for multiple procedures, tables and/or flow charts can be useful to make things crystal clear to Committee members.

- 对于繁殖方案，在基因型分类之后，许多动物将被淘汰，请确保所生产的动物总数和实验/观察中实际使用的总数的合理。从实验开始，到繁育后有多少动物被用于实验。If you have a breeding protocol, in which many animals will not be used after genotyping, please make sure that the total number of animals produced and the total number actually used in the experiments/observations, can be clearly understood. It is useful to start with the experiments to be carried out and then to work back to how many animals you will need to obtain through breeding.

- 分开填写用于繁殖和实验的动物数量。When describing the number of offspring used, separate your numbers into those that will be used exclusively for breeding and those that will be used in experiments.

- 对于需要动物器官的实验，请对动物的数量做出粗略的估计（例如，每个肝脏将获得 3x107 个细胞，每项实验需要 6x107 个细胞，15 个实验意味着 30 个动物）。When you use euthanized animals for organ culture, provide rough estimate for the number of animals (e.g. we will get 3×107 cells per liver and need 6×107 cells per experiment, for 15 experiments that means 30 animals).

动物运输情况 Transportation

运输方式应符合法规要求，若动物使用公共交通工具运输，请描述符合法规的方法；若动物需在设施间转移，请描述方法及容器。Transportation of animals must conform to all institutional guidelines/policies and federal regulations. If animals will be transported on public roads or out of state, describe methods you will use to comply with USDA regulations. If animals will be transported between facilities, describe the methods and containers that will be used. If animals will be transported within a facility, include the route and elevator(s) that will be used

研究目的 Study Objectives

简述研究目的及其对于动物或人类的重要性，请确认这项研究是否不必要地重复了其他的研究。Briefly explain the aim of the study and why the study is important to human or animal health, the advancement of knowledge, or the good of society in language that a layperson can understand. Please comment on whether the study unnecessarily duplicates other studies.

使用动物的理由 Rationale for Using Animals

请陈述使用动物的理由（必要性）。请陈述使用此物种的适当性。请陈述动物使用数量已达到实验研究的最小量的根据。In this section, the IACUC is looking for you to discuss why alternatives to live animal cannot be used. For example: Describe why computer models, tissue culture, or perhaps clinical studies cannot be used to complete the objectives of your Protocol Aims. Simply stating that you need live animals is not an appropriate response.

Description of Experimental of Design and Animal Procedures

简述实验设计方案并详细列出动物操作程序。所有程序必须详细描述，要能够使 IACUC 了解从动物进入到实验研究开始到研究终点过程中动物经历的所有实验环节。可以使用流程图辅助说明。Briefly explain the experimental design and specify all animal procedures. All procedures to be employed in the study must be described. This description should allow the IACUC to understand the experimental course of an animal from its entry into the experiment to the endpoint of the study. A flowchart may be an effective presentation of the planned procedure.

Surgery

1. 手术过程操作 2. 手术人员资质 3. 手术操作地点 4. 术前照料及术后护理 1. Identify and describe the surgical procedure(s) to be performed. Include preoperative procedures 2. Identify the individual(s) that will perform surgery and their qualifications, training, and/or experience.3. Identify the location where surgery will be performed. [building(s) and room(s)]4. If survival surgery, describe postoperative care that will be provided and frequency of observation. Identify the responsible individual(s) and location(s) where care will be provided.

疼痛及不安操作的考虑 Consideration of Alternatives to Painful or Distressful Procedures

关键字必须包括（可能的）痛苦或有压力的过程（s）。The key words MUST include the (potentially) painful or distressful procedure(s).

叙述必须特别地处理发现（可能的）痛苦或压力的过程。是否讨论任何替代方案?如果是请说相关性？如果这类研究的标准如此，请说明。The search narrative has to specifically address your findings in respect to the (potentially) painful or distressful procedure. Were any alternatives discussed? If so, how do they relate to your study? If this is the standard for this type of research, indicate this.

安乐死 Euthanasia

陈述合理的安乐死方法，使用药物的剂量注射方法，If you have listed a protocol activity as non-survival surgery or euthanasia, then this section will not be displayed as the information is provided in the protocol activity sections.