

Things you need to know to make your UCUCA application process a little easier.

To submit an application for animal use, you will need to log onto eSirius at <https://esirius.med.umich.edu/esirius/>

You will first be prompted to log into the University web-based programs with your unique name and Kerberos password (or Level 2 password). To log into eSirius itself, you will need your username and your eSirius password. If you do not have an eSirius password, please contact the UCUCA office at 763-8028. Alternatively, you can fill out the following pdf file (<http://www.ucuca.umich.edu/forms/eSirius%20Access.pdf>) and fax it in. Access is generally granted in 1-2 days. PIs may designate an associate who can share access to their files.

Important information to have before beginning the process:

- 1) The names of all personnel who will perform animal work on the protocol. If they are new to the University or have not previously been trained to work with animals by ULAM/UCUCA, you will also need their UM ID#, unique name and information about their experience/qualifications.
- 2) An electronic version of the project award notice of any grant which is funded and will support the animal work being proposed and the DRDA# for that award
- 3) Any necessary permits, if capturing wildlife
- 4) The building and room numbers where procedures with a live animal (breeding, housing, observation, surgery, etc) will be performed, including rooms where they will be euthanized
- 5) You will also be asked for a detailed description of your animal use procedures. This includes the names and doses of any substances used on animals (including anesthesia and analgesics), a detailed justification of the number of animals requested and the humane use category under which they will be utilized (see page 11.E.16 below)
- 6) If you will be using a fee for service protocol (e.g. the transgenic core, the hybridoma core, etc), you will need the name of the principal investigator of that core and their approved UCUCA protocol number.
- 7) If using recombinant DNA or isotopes in animals, you will need your Institutional Biosafety Committee (IBC) approval date or your Radiation Safety Service (RSS) isotope license number.

The application review process is a multi-step process

The eSirius application must be completed in its entirety prior to submission to the UCUCA Office. IT IS VERY IMPORTANT TO READ ALL INSTRUCTIONS FOR EACH PAGE AND FOR EACH QUESTION BEFORE ENTERING YOUR

ANSWER! Once you click “submit” at the end of the process, the application will be sent to the UCUCA office for an administrative review. They will check for completeness, verify room numbers, identify personnel in need of training, and ensure that the application contains all needed information for ethical and veterinary review. Any questions will be linked to the appropriate section of the application and the application will be returned to you for editing. You will be notified via email that you need to make changes to your application. Once the administrative review is complete, applications are then forwarded to members of the UCUCA and the veterinary faculty within ULAM. They have a one week period to review the protocol. Additional questions may come from this round of review. If so, the principal investigator will be notified via email that additional information is needed to complete the review and the application will be returned to the PI’s homepage in eSirius for editing. The UCUCA and veterinarians will then re-review any changes. In general, this should not take more than 2 rounds. Once all issues have been resolved, approval is granted. You can follow these steps on your eSirius Home Page by logging in to see the “Work Flow Status” for your protocol. The home page will let you know where the application is in the process. Normally, the application review process takes 6-8 weeks from submission to approval, assuming that the PI makes requested modifications in a timely manner (i.e., within 1 week). However, review can take longer if there is a delay on the part of the investigator or numerous concerns are identified during UCUCA review. **PLEASE PLAN AHEAD AND SUBMIT YOUR APPLICATION AS EARLY AS POSSIBLE!**

Where to find assistance

The UCUCA staff is here to help! If you have any questions regarding the application or have specific questions about procedures, drug dosages, etc, please contact us at ucuca.office@umich.edu or 763-8028. We would be happy to help you find the information you need. We fully understand the value of animal research and we want to facilitate your research efforts, while ensuring ethical treatment of research animals and adherence to all University and federal laws and guidelines.

Organization of application

The application is divided into a series of 13 pages with subpages.

Information for filling out each part of the application appears at the top of the page in eSirius. The following hints and tips will help you avoid the most common errors.

Hints and Tips

Log in page

You may be prompted to select your role. There are two choices (“Enterprise” or “Office”). Choose “Enterprise” for submitting or revising your application. The “Office” mode is for UCUCA reviewers and department chairs.

If you are able to submit applications for more than one PI, pick the appropriate PI from the drop down menu before logging into your home page.

At the bottom of the Home Page, the first choice is “Submit an application for a new protocol.” Once you click this button, your protocol will be assigned a 5-digit number. You can save your work at any time and complete the application later. It will remain on your home page until you submit it.

NOTE:

If you are renewing your protocol, you will see an alert on your homepage. (Please follow the instructions in your renewal notice email).

NOTE ABOUT SAVING YOUR WORK: Always click “Save and Continue” to save the page you were working on. To exit, click “Exit Without Saving Page.” Information added will not be saved with this option.

Page 1. PI Contact Information

Please fill in all requested information. Make sure your contact information is current, and make sure your campus address includes the four-digit campus zip code (not the five-digit Ann Arbor zip code). Include relevant experience and qualifications that relate to the work outlined in the protocol, and include degrees earned.

Note: Fields with an asterisk must be filled in to move forward in the application, however, please complete all applicable fields. Click “Save Changes” at bottom of screen to move to next page.

Page 2. Protocol Title

Please choose a general title that will be used to reference the protocol. Specific titles associated with grant funding will be asked for on Page 6. Upon approval, you will receive an approval letter for each title specified on page 6. There is a section on this page for notes and comments between the PI, UCUCA staff, and OSEH.

If this is a renewal protocol but now has a different number, please indicate this in this Notes section. If UCUCA staff make a notation here regarding containment of animals, please do not make any changes to the notation.

Page 3. Scientific Goals

You must summarize the “big picture” of the scientific goals in 250 words or less, in LAYMAN’S terms. This is a federal law and some UCUCA members are non-scientists. Please avoid using scientific jargon such as: phenotype, allele, transgenic, etc.; instead, use language as if you were describing your

research to your neighbor. For instance, instead of “transgenic” use “genetically-modified.”

Example: We seek to understand why patients who have undergone a bone marrow transplant are more susceptible to lung infections.

Page 4. Scientific Objectives

This section should describe the specific aims of the project in LAYMAN's terms.

Example: We will perform bone marrow transplants in mice and test the ability of the mice to clear a bacterial or viral lung infection. We will use genetically-modified mice as bone marrow donor,s or recipients, to test the importance of specific mediators in this process.

Page 5. Scientific Benefits

Explain in LAYMAN's terms how this research will benefit society. This can be by improving scientific understanding or by benefiting human/animal health. This question refers to the “animal use” specifically.

Example: We hope to identify the specific mediators that are produced as a result of bone marrow transplant that limit the ability of the transplant recipient to fight off lung infections. Animals must be used in these studies as there is no way to model the complex interactions that occur between immune cells and structural cells in the body post-transplant without using an animal model. This work may identify treatments to limit infections in patients receiving transplants.

Page 6-Funding/Scientific Merit

This question can be confusing depending on the status of your funding for the project at the time of application. Follow these rules:

- 1) If you have already received funding for this project from a peer-reviewed organization (e.g. NIH or the American Cancer Society)-check the first box “Agency Funding (Peer Reviewed)”
- 2) If you are in the process of applying for funding for this project from an agency or foundation, but have not yet received the award notice, check both the first box “Agency Funding (Peer Reviewed)” and the second box “departmental peer review or funding”
- 3) If you are funded by, or are applying for funding from a private source such as a biotech company, check both the second and third boxes “Departmental Peer Review or Funding” and “Private/Commercial Funding”
- 4) If this work will be funded by a gift account or other such funds, check both the second and fourth boxes; “Departmental Peer Review or Funding” and “Other”

- 5) If this work will solely be funded by institutional or discretionary funds, check the second box only “Departmental Peer Review or Funding”

These choices will take you to the sub-pages of page 6, such as 6.A “Peer review funding agency list.”

Please add the funding agency/source using the scroll down menu. Add the DRDA#. Attach the project award notice for this grant using the browse function. In order for this to work, you will need to have an electronic version of your award notice.

Under page 6B, the department funding list, you can either click “yes” to have the application sent to your department chair through eSirius or upload any documentation you have regarding funding or scientific merit of this project. This can be a letter from your department chair. Please note that if you do not have proof of peer-reviewed funding for this project at the time of application, UCUCA will contact your department chair to review the application for scientific merit prior to approval and you must check “Yes” for this question. This is most often done by sending the application to the department chair through eSirius. Page 6.C or 6.D will appear for documentation of private or other support.

Page 7- Offsite/Field Research

If you are subcontracting this work to a Public Health Service (PHS) approved outside contractor, check box 1 and fill out the sub-pages that follow.

If you will be capturing wildlife, check box 2 and fill out the sub-pages that follow. Ensure all valid permits are attached at the bottom of the page. On the next page, confirm that you will fill out form 8225D to notify UCUCA of animal procurement via non-traditional means by clicking “Continue.”

If you do not have a valid permit(s), please contact the UCUCA office for advice.

Page 8-Use of Fee-for-Service Protocols

This is the place to indicate you will be using fee-for-service protocols (e.g. the transgenic core, the hybridoma core, etc). If you will be using these services, check “yes.” Remember to check “yes” in this box if you plan on having the transgenic core breed animals.

On page 8.A, provide the name of the PI of the appropriate core, their approved UCUCA protocol number, and a brief description of the services the core will provide.

Note: Remember that you will need to include the procedures occurring on your animals in the core on page 11.E.8 and briefly describe the procedures on page 11.E.14.

If you are utilizing the ULAM husbandry services for breeding colony management, you do not need to check this box.

Page 9-Animal Tissue Use Only

You would only check “yes” on this page if you will never handle a live vertebrate animal and will ONLY use animal tissue, organs, embryos, whole dead animals, etc. obtained commercially or from another approved project (i.e., you will not purchase live animals or use live animals from other investigators).

If you will ever handle a live animal at any time, check “no.”

If you will use live animals as well as animal tissues, check “no.”

If you are obtaining live animals and euthanizing them, even if it is happening immediately, check “no.”

Page 10- Use of Hazardous Agents

If you will be using any agent (physical, chemical or biological) which may present a danger to other animals in the facility or animal care staff, check “yes” for the first question. Your answer here must match your answer on page 11.E.1, question 9.

If you are using human tissues in animals, check yes for the second question. You must also check “yes” for question 9 on page 11.E.1. Human tissues/fluids must be added as a hazardous agent on page 11.E.12.

Checking “yes” in either box will open page 10.A where you will be asked whether you are using recombinant DNA or isotopes in animals.

Please note: The use of any hazardous substance in animals (viral vectors, chemotherapeutic drugs, toxins, etc.) will cause your application to be reviewed by OSEH. In the application, you will be asked to fill out an information sheet pertaining to the hazard you will be using which will be kept on file by OSEH. This form must be completed and the necessary approvals received before work can begin. In some instances, if the hazard poses a risk to other animals or humans, UCUCA/OSEH/ULAM may require special housing or handling procedures be followed for your experiments. These special requirements will be communicated to you during the approval process and indicated in your approved protocol on page 2 in the “Notes/Comments” section. If you have any questions about the use of a potentially hazardous agent, please contact Janet Follo in OSEH at jfollo@umich.edu.

Page 11-Animal Use

Check “yes” if you will use live vertebrate animals or whole dead animals. Note that this includes fish and amphibians as well. If you are obtaining live animals and euthanizing them, even if it is happening immediately, check “Yes.”

Page 11.A. –Housing Outside of the Animal Facility

Please provide the requested information. If you will keep animals outside of approved animal housing facilities for more than 12 hours, the building and room location must be given. You may request permission to house rodents outside of approved animal facilities for up to 24 hours ONLY. USDA-covered species (including guinea pigs, rabbits, etc) may only be kept outside approved animal facilities for up to 12 hours).

It is federal policy that when animals are kept outside of the animal housing facilities, these rooms must be inspected semi-annually by UCUCA. Housing of animals for longer periods of time than those specified is a violation of UCUCA and federal policies. You risk having your rights to use animals at the University of Michigan suspended if you do not adhere to these rules, so be thorough as you fill out this page.

Page 11.B Type of Animal Use

Use the pull down menu to indicate the category for animal use (e.g. basic research, applied research, training, etc)

Page 11.C Use of Human Clinical Areas

Indicate if animals will be used in human clinical areas

Page 11.D Transportation of Animals

Check “yes” if animal transportation by non-ULAM personnel will follow the ULAM guidelines outlined here:

<http://www.ulam.umich.edu/sops/AnimalTransport.pdf>

Be sure to inform your laboratory staff of the regulations requiring that animals be covered during transport, what constitutes a proper covering, and that public areas are to be avoided, if possible. These are the most common violations of this policy.

Page 11.-Species List

Use the “Add Species” button to indicate what species are covered by this application.

NOTE: IF YOU ARE RENEWING AN APPLICATION, SELECT THE SPECIES AND CLICK “EDIT SPECIES” SO THAT YOU CAN MODIFY THE APPLICATION ACCORDINGLY OR YOU WILL NOT BE ABLE TO ACCESS THE FOLLOWING SCREENS.

Page 11.E.1- Species Information

Fill in the required information. Be sure the total number of animals listed in question 2 matches the number requested on pages 11.E.16 and 11.E.17 and is for three years. Be sure to include the number of animals you will use for breeding and take into account the number of unwanted progeny that may be generated and euthanized as you calculate this number. Be sure to check “yes” for all appropriate questions on this page, as it will ensure that the appropriate subpages are available.

If you plan to ear tag mice, please indicate that in question 5. If you will perform tail biopsies on mice over 21 days of age, you will also need to indicate that anesthetic will be used in question 6

Page 11.E.2 Justification for Choice of Species

Please justify your choice of species for the proposed work.

Note that “Cost” is not considered an appropriate justification for the use of one species over another. So, do not say we will use mice because they are cost-effective. Please provide a scientific justification.

Examples: We will use pigs for the proposed research because the anatomy of the pig heart closely mimics the anatomy of human hearts.

OR

We will use mice for the proposed work because of the availability of well-characterized inbred strains with defined responses to Cryptococcus neoformans.

Page 11.E.3-Species Source

Check “Yes” if you will use ULAM services for ordering animals; however, if you will obtain animals from sources other than a commercial vendor through the ULAM office, you will also need to type the following confirmation(s) into the text space for question 2:

If you are breeding animals; performing capture and release; or using the transgenic breeding core, please type:

“We will use UM Form 8225-D for animals obtained and/or progeny created.”

If you will use animals obtained from another investigator within the University, please type:

“We will use UM Form 8225-C for intra-university transfer of animals.”

Of course, by typing these words, you are agreeing to use those forms. The 8225-D form is available at <http://www.ucuca.umich.edu/forms/8225-D.DOC>

The 8225-C form is available at <http://www.ucuca.umich.edu/forms/8225C.DOC>

Page 11.E.4 Enrichment and/or Exercise

This page will only appear if you are using larger mammals (rabbits, etc). Provide answers to the questions. Links to ULAM guidelines are found at the top of the page.

Page 11.E.5.-Quarantine and Conditioning

This page will only appear if you are using larger animals that must undergo quarantine and conditioning procedures. Please refer to the weblinks in the instructions.

Page 11.E.6 Housing Location List

Select “Add Housing Location” to enter information on where animals will be housed.

If ULAM will provide all care, you need only select the building location under facility name, since ULAM will determine where your animals are housed within the building. You only need to answer questions 2 and 3 if you will house animals in a non-ULAM area. The responsible person should be the PI or the facility manager.

Page 11.E.7-Use Location List

Select “Add Use Location” to indicate the rooms where all procedures will be performed. You need to provide the use location for sites where any animal procedure will be performed, including but not limited to; surgery, restraint, observation, blood collection, etc. Be sure to include rooms where animals will be euthanized.

If you need to add more than one use location, you can repeat this step several times after selecting “Save and Continue.” (A common mistake is to forget to add surgery use locations to this page)

Page 11.E.8. Procedure List

- Please check all procedures which will be performed on your animals.
- Please note: “Observation” is mainly for field or behavioral studies where there is no manipulation of animals at all, only observation.
- If a procedure has a star (*) after it on page 11.E.8 there will be a sub-page, 11.E.8.A, where you will be asked specific questions regarding each of those procedures.

- Note that only a very brief description of the indicated procedure is requested on these sub-pages. Do not provide a detailed full description of all the procedures the animals will be subject to. This will be requested on Page 11.E.14. If you are performing a procedure in accordance with a guideline, such as tail biopsy, please describe the procedure, as opposed to saying, “I will follow the guidelines,” if the question specifically asks for a description of the procedure.
- Remember that if you are breeding animals, you will need to check “Biopsy” if you will do a tail biopsy for genetic analysis. If you will perform this procedure on mice over 21 days, you will also need to check anesthesia for this procedure.
- If you will be performing food or water restriction that is longer than 6 hours, you will need to provide justification on page 11.E.14. If the food/water restriction in rodents will be longer than 24 hours, this will require these animals to be placed in a higher use category on page 11.E.16.
- If you will inject substances (e.g. anesthetic, antibodies, analgesics, etc), you need to choose “Injection” and “Anesthesia” on this page.
- Also for “Injection”, the second question asks for the route AND frequency. (For example: *Cephalexin will be injected i.p. one time*) The last question refers to how long the injection of the agent will take (for example, *an i.p. injection of 100 microliters of cephalexin may take 5 seconds*). This does not refer to the length of time the whole surgical procedure may take.
- Please note: **If the injectable substance is an anesthetic or analgesic, you need only answer the first question under “Injections”, that is provide the name of the anesthetic or analgesic.** If the injectable substance is a different type of drug, please answer all questions.

Page 11.E.9 Surgeries

- Click “Add Surgery Type” to open Page 11.E.9.A and answer the additional questions
- If the use location where these surgeries will take place does not appear on the list, you will need to return to the appropriate location on Page 11.E.7.
- Questions on this page only refer to pre-operative and post-operative care of animals. You do not need to describe the surgical procedure itself until Page 11.E.14.

- If your protocol has multiple species on it, do not reference pre-and post-operative care between species. This section must be filled out separately and in full for each species (e.g. describe mouse procedures on the mouse pages, rat procedures on the rat pages, etc).
- If you will perform multiple major survival surgeries, you must provide justification on the bottom of this surgery page. When answering the question, if this is a multiple major surgical procedure that the animal will recover from, involving two different surgery types, indicate “No” for the first surgery in the sequence and indicate “Yes” for the second surgery in the sequence. For example, if you are performing a laparotomy and then three days later, a thoracotomy, you would indicate “No” for laparotomy and “Yes” for thoracotomy, and provide the multiple major surgery justification on the thoracotomy page.
- For USDA species, the surgical room must be a UCUCA approved area for surgery.

Page 11.E.10-Prolonged Restraint

This page will only show up if you checked “Restraint” under procedures on Page 11.E.8.

Page 11.E.11-Anesthetics, Analgesics, Tranquilizing or Neuromuscular Blocking Agents

Click the “Add Drug” button to enter any anesthetics, analgesics, tranquilizers or neuromuscular blockers that you will be administering to this species.

Guidance for the use and dose of such agents can be found at: <http://www.ucuca.umich.edu/guideaa.htm> and as links in the program, in training handouts and on the UCUCA website . Do not add agents that are only used for euthanasia.

If you are performing surgery, check the UCUCA policy at <http://www.ucuca.umich.edu/guidesurg.htm> to determine whether analgesics are recommended or required. If you will use analgesics preemptively for surgery, be sure to answer question B1 as “yes.”

If scientific reasons prevent you from using an analgesic when it is required by UCUCA policy, you will have to justify the reason for this on Page 11.E.15, question 4. Animals not receiving analgesics will be placed into a higher use category on 11.E.16.

Page 11.E.12 –Hazards

If your answer was “Yes” on Page 10 (Use of Hazardous Agents), then you must select “Add Agent” on this page. This will open up Page 11.E.12.A. Answer the questions at the top of the page. (Note: If you are using human tissues or fluids, you must add “Human Tissues/Fluids” as an agent.) At the bottom, you will be asked to confirm that you have submitted the “Hazardous Materials in Research” form to OSEH. The form is found at this website <http://www.oseh.umich.edu/ProtocolReview.pdf> and also as a link in the program.

Fill it out and send by email before checking the box “Yes”.

This procedure can be repeated if more than one hazard will be utilized, however one OSEH form can be filled out for multiple agents.

Page 11.E.13-Euthanasia

- Click “Add Method” to open Page 11.E.13A. Select euthanasia method from drop down list.
- In question 1, indicate if the method is unacceptable or conditionally acceptable according to the guidelines found on this site: <http://www.ucuca.umich.edu/forms/Euthanasia%20Chart-2000.pdf> and as a link in the program.
- For question 2, cervical dislocation alone cannot be used to ensure death. Observation of rigor mortis, induction of bilateral pneumothorax, removal of vital organs are all acceptable ways to ensure death.
- Any euthanasia method performed under anesthesia is acceptable.
- If you intend to provide an anesthetic overdose, be sure the dose used is appropriate.
- Ensure that what you say for method of euthanasia on this page matches the description you will provide on the next page.

Page 11.E.14 Animal Use Procedure Description

THIS IS THE PLACE TO PROVIDE A DETAILED DESCRIPTION OF THE PROCEDURES THAT WILL TAKE PLACE ON YOUR ANIMALS.

- Be sure that any procedure that you identified on the list on page 11.E.8 is described in detail here, including breeding. Don’t forget to include the

procedures that occur in the fee-for-service units in the order of events and timeline in which they will occur. The details of these procedures are approved in the fee for service protocol and therefore do not need to be detailed again here.

- Provide a time line of events so that reviewers will know what will happen with each group of animals from birth to death. Specify each time point and end point and explain why they were chosen.
- You do not need to provide dosages for anesthetics or analgesics in this description because that has already been documented, and may lead to confusion if the dosages do not match.

*Example: Wild-type and cytokine-deficient mice will be purchased from Jackson laboratories or bred in ULAM facilities. Only female mice will be used. Unwanted male progeny from the breeding colony will be euthanized by CO₂ asphyxiation. For bone marrow transplant studies, recipient mice will be irradiated at 1300 Gy on day 0. Donor mice will be euthanized and bone marrow will be collected. Irradiated recipient mice will be given an infusion of bone marrow cells via tail vein injection following irradiation. Mice will be allowed to rest for 6 weeks post-transplant. During the first 3 weeks post-transplant, mice will be given acidified drinking water to prevent infection. Six weeks post-transplant (a time when hematopoietic reconstitution is complete), mice will be anesthetized, the neck cavity will be opened and the mice will be given an intratracheal infection with *Pseudomonas aeruginosa* bacteria. The surgical opening will be reclosed with nexaband. At defined time points (24, 48 and 72 h post-infection) mice will be euthanized. Blood and lungs will be collected for measurements of bacterial burden, RNA and cytokines. These time points were chosen to provide a kinetic analysis of the host response during acute infection.*

In question 11.E.17 you will be asked to justify the number of animals for the proposed description.

Page 11.E.15 –Adverse Consequences

Question 1: Describe the expected complications that could arise from your procedures. This answer must include death as an adverse consequence if you plan to euthanize mice.

Question 2: The answer should describe the potential worst-case scenario. These would include unexpected, but potential complications.

Question 3: This question asks how the events in questions 1 and 2 will be MONITORED and what are the criteria and signs that will indicate premature euthanasia of the animals. Please indicate specific signs (e.g. weight loss, failure to eat/drink, lack of mobility) and monitoring procedures rather than providing a vague, general answer.

Question 4: You must provide an answer here if you are performing a surgical procedure but not giving analgesics (regardless of whether analgesics are recommended or required for the procedure). You must also answer this question if you have any animals in humane use categories 7, 8 or 9 on the next page.

Page 11.E.16-Use Categories

The total number of animals requested here must match the total requested in 11.E.1 and 11.E.17. Note that survival studies where you will allow the animal to die without intervention must be placed in Use Category 8. If you will perform a procedure which may cause death to the animal, but you will monitor this closely and euthanize any animals which become moribund, the Use Category will be 5. Remember that you will purchase animals according to the use categories you have requested, and you will only be allowed to purchase animals in the categories you have specified.

Example: For the example below in 11.E.17, the use categories and number of animals would break out like this:

6+49=55 animals will be in use category 2 (breeders and euthanized unwanted progeny)

The remaining 149 experimental animals would fall under category 6. (This is because the injection for the bone marrow transplant would be use category 2, but the anesthesia for the intratracheal injection is use category 6—always use the highest use category which the animals will experience).

Page 11.E.17-Justification of numbers

Be sure that your narrative justification on this page equals the total number of animals that you have requested on pages 11.E.1 and 11.E.16.

For the example given in 11.E.14, the following justification of animals would be appropriate.

Example: Our bone marrow transplant studies will require 5 mice per group for the measurement of 3 outcomes (bacterial burden, RNA and cytokines). These outcomes will be tested at 3 time points (24, 48 and 72 h). We intend to compare three different groups of transplanted mice (wild-type donors, GM-CSF-/- donors and TNFalpha-/- donors). Thus, the total number of mice required for these experiments is 5 (mice) x 3 (outcomes) x 3 (time points) x 3 (groups)=135 mice.

The number of mice chosen per group is based on historical data which suggests that 5 mice per group will yield significant results. We anticipate a 10% loss during experiments due to transplant failure, so we are asking for an additional 14 mice for the experiments.

We will breed the GM-CSF-/- mice ourselves. Our breeding colony will consist of 2 harems (2 female + 1 male each). We anticipate that these harems will generate 10 progeny per month. Approximately half the progeny will be male and will be euthanized. We need at least 49 female GM-CSF-/- mice for the above experiments. Thus, we anticipate the birth of 98 pups will be required to generate 49 experimental female animals. Thus, our breeding scheme will require 6 mice for 2 harems and will generate 49 unwanted progeny.

In total, we require $135+14+6+49=204$ mice. 55 mice will be in use category 2 and 149 mice will be in use category 6.

Page 12-Judicious Use of Animals.

Please provide a scientific justification for why animals must be used in the proposed research as opposed to alternative approaches such as tissue culture, mathematical modeling, etc.

In the question asking about databases searched (PubMed, etc) to look for alternatives, a good example of an appropriate search would be:

“Mice AND bone marrow transplant AND alternative”

or

“rabbit AND ovariectomy AND pain relief”

Page 13-Personnel

You can add personnel to your application by clicking “Add Person.” This will take you to a search screen. You only need to type in the last one or two letters of their last name and click “Search” to be able to call up a list of personnel who have received some ULAM/UCUCA training for work with animals. Click the button next to the appropriate name and go to the bottom of the page to click “Add Selected Name”. If the person you are adding has worked with animals at the University of Michigan previously, they should appear on this list. If they do not, or if the person is new to the University, go to the bottom of the search results screen and select “Add a Person Not on the List” (NOTE: In order to access the “add a person not on the list” button, you must at least get a search result. Therefore, put in only a few letters, or less, of the last name so that a result of some names appear. Otherwise, you will get an error and the button to add new personnel will not be available). You will then need to fill out the appropriate contact information for that person including their UMID#. It is very important to answer the protocol-specific questions regarding the species they will be working with, the procedures they will be performing (these are a series of “yes/no” questions), as well as the related experience and qualifications of this person for the work you are proposing that they do.

Final Steps:

You can now run the error verification step to be sure the application has no obvious missing information. You will then be asked to provide an electronic

signature (this is your password for eSirius) and finally, you can choose the button to submit the application to UCUCA. (Note that if an associate clicks submit, the application will be routed to the PI, not the UCUCA office-and the PI will get an email telling them the application is ready to submit). Remember to check your email regularly for UCUCA correspondence relating to the review of your protocol and to check your eSirius home page frequently to view the work flow status of your protocol. Answer queries about your protocol in a timely fashion, and call the UCUCA office with any questions. The UCUCA Committee will do our part to review this application in a timely manner. Best of luck with your research efforts!