GEORGIA AQUARIUM

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE APPLICATION FOR ANIMAL USE

SECTION I. SURVIVAL SURGERY PROCEDURES

Note: Repeat items I1 through I15 for *each* species that will have survival surgery. If surgical procedures are the same for all species, you can list them on a single form. If they differ, please submit a separate section I for each species.

Species:

☐ This is the only species in this study and therefore the only Section I Form.
☐ Multiple species are in this study with different surgical procedures, and each have a Section I Form.
☐ Multiple species are in this study with the same surgical procedures. Additional species include:

I1. MULTIPLE SURVIVAL SURGERY

Will any of the animals have undergone survival surgery prior to being entered into this study (e.g., by the vendor or under a different protocol)?

☐ No, animals will not have had prior survival surgery.

☐ Yes, animals will have had prior survival surgery:

Provide prior surgeries and include dates of the procedures:

Will any of the animals experience more than one survival surgery, including surgery prior to entering the study?

☐ No. Animals will have only one survival surgery procedure.

☐ Yes. Animals will have more than one survival surgery procedure:

Describe how the multiple survival surgeries, including any experienced prior to entering this study, are interrelated components of this protocol and why the multiple surgeries are necessary to achieve the scientific objective).

I2. NARRATIVE OF SURVIVAL SURGERY PROCEDURES UNDER THIS PROTOCOL

Description of survival surgery procedures:

Specify the method of wound closure:

Will all sutures and/or wound clips be allowed to remain in place beyond the 14th post-operative day?

☐ No, all sutures and/or wound clips will be removed on or before the 14th day after surgery.
☐ Yes, sutures and/or wound clips will remain in place for more than 14 days.

I3. PRE-OPERATIVE ANIMAL SUPPORT (NOT ANESTHESIA)

Specify pre-operative actions that will be taken to prepare the animals for survival surgery (select all that apply):

☐ Physical exam/evaluation of overall appearance

☐ Overnight food withdrawal

☐ Clipping of fur

☐ Ophthalmic ointment to eyes

☐ Iodine (or Chlorhexidine) + alcohol skin scrub, 3 alternating cycles

☐ CBC/Chemistry profile (define blood sampling method):

For ALL drugs that fall under this category (Pre-Op, non-anesthesia), please identify the drug and specify the dose, route and frequency of administration, and duration of treatment below:

Drug	Dose	Route of Administration	Frequency of Administration	Duration of Treatment

I4. PRE-OPERATIVE ANESTHESIA, SEDATION, TRANQUILIZATION

Will pre-operative anesthesia, sedation or tranquilization be provided to the animals?

☐ No. Drugs will not be administered to the animals prior to surgical anesthesia.

☐ Yes. Pre-operative drugs will be used to calm the animals.

For ALL drugs that fall under this category (Pre-op, anesthesia, sedation, tranquilization), please identify the drug and specify the dose, route and frequency of administration, and duration of treatment below:

Drug	Dose	Route of Administration	Frequency of Administration	Duration of Treatment

I5. INTRA-OPERATIVE ANIMAL SUPPORT (NOT ANESTHESIA)

Specify intra-operative care that will be provided to animals during survival surgery (select all that apply):

☐ Mechanical ventilation

☐ Intravenous fluids

☐ Ophthalmic ointment to eyes

☐ Heat to prevent hypothermia

☐ Cooling to prevent hyperthermia

☐ None, explain:

☐ Other, please detail:

I6. INTRA-OPERATIVE ANESTHESIA

Please list all agents and dosing regimens to be used for intra-operative anesthesia.

Anesthetic Agent	Dose	Route of Administration	Frequency of Administration	Duration of Treatment

I7. NEUROMUSCULAR BLOCKING AGENTS (PARALYTICS)

Will neuromuscular blocking agents (paralytics) be used at any time during the procedure?

☐ No. Neuromuscular blocking agents will not be used for the procedure.

☐ Yes. Neuromuscular blocking agents will be used:

Provide details on neuromuscular blocking agents:

I8. MONITORING DURING ANESTHESIA

Indicate below the indices that will be used for intra-operative monitoring of animal condition and depth of anesthesia.

☐ Respiratory rate / effort

☐ Mucous membrane color

☐ Body temperature

☐ Oxygen saturation

☐ Heart rate

☐ Blood pressure

☐ Capillary refill time

☐ EKG

☐ Reflex, detail:

☐ Other, explain:

Specify the frequency at which the above indices will be recorded:

I9. POST-OPERATIVE ANIMAL SUPPORT DURING RECOVERY FROM ANESTHESIA

Indicate care that will be provided to animals during post-operative recovery from anesthesia (i.e., until sternal recumbency is regained and maintained. Select all that apply:

☐ None, explain:

☐ Heat to prevent hypothermia

☐ Cooling to prevent hyperthermia

☐ Ophthalmic ointment to eyes

☐ Intravenous fluids (IV, IP, SC Fluids), please detail:

☐ Other, please explain:

I10. MONITORING DURING RECOVERY FROM ANESTHESIA

Indicate below the indices that will be used for post-operative monitoring of animal condition during recovery from anesthesia. **Note**: Animals will be continuously monitored until fully recovered, as indicated by regaining righting reflex and purposeful movement.

☐ Respiratory rate

☐ Mucous membrane color

☐ Body temperature

☐ Oxygen saturation

☐ Heart rate

☐ Blood pressure

☐ Capillary refill time

☐ EKG

☐ Reflex, detail:

☐ Other, please explain:

Specify the frequency at which the above indices will be recorded:

I11. PAIN MANAGEMENT

Will analgesia be provided to the animal for relief of post-operative pain?

☐ No. Post-operative analgesia will not be provided.

Please explain why analgesia will be withheld:

☐ Yes. Analgesia will be provided.

Please list analgesics, time of administration, and dosing regimens:

I12. POST-OPERATIVE ANTIBIOTIC OR DRUG THERAPY

Will antibiotics or drugs other than experimental agents be provided to animals during the post-operative period? (7 days)

☐ No. Such treatment is not planned and will be provided only if medically advised.

☐ Yes. Antibiotics and/or drugs will be administered:
Specify details:

I13. SINGLE HOUSING DURING POST-OPERATIVE RECOVERY

Animals are required to be socially housed (if appropriate) unless otherwise requested and justified. This provision exists from the point of anesthesia recovery up to seven days post recovery. Please select the appropriate response which applies to this protocol. If more than one is applicable, then select multiple responses:

☐ Single housing post anesthesia is not required for this study.

☐ Animals may be singly housed post anesthesia for up to 7 days. Animals in this condition will be provided with environmental enrichment:

Which animals in your study will require single housing?

I14. SPECIMEN COLLECTION FROM LIVE ANIMALS

Will specimens be collected from living animals during or after the survival surgery?

☐ No. Specimens will not be collected from living animals.

☐ Yes. Specimens will be collected from living animals:

Define specimen type and collection details below:

☐ Fluids (e.g., blood, lymph, ascites, CSF, GI fluids, etc.)

Fluid type (specify):
Volume (mls) per collections:
Collection method (specify):
Frequency of collection:

☐ Solid Tissues

Tissue type (specify):
Volume (mm^3) per collections:
Collection method (specify):
Frequency of collection:

I15. HUMANE ENDPOINTS WHICH WILL BE MONITORED AND WILL PROMPT INTERVENTION TO PREVENT CONTINUED PAIN OR DISTRESS

According to The Guide, information that is critical to the IACUC's assessment of appropriate endpoint consideration within a protocol includes precisely defining the humane endpoint (including assessment criteria); the frequency of animal observation; training of personnel responsible for assessment and recognition of the humane endpoint; and the response required upon reaching the humane endpoint. The IACUC has determined that the list below defines the commonly accepted clinical milestones which should be regarded as humane endpoints for most animal studies. Choose all of those which are appropriate for the species being used. For each milestone, indicate the action that will be taken. Add other milestones (in the row marked 'other') if applicable for defining the humane endpoints for the proposed study.

☐ No, humane endpoints are not related to this protocol.

☐ Yes, humane endpoints are applicable to this protocol. Please complete the table below:

HUMANE ENDPOINTS THAT WILL PROMPT INTERVENTION TO PREVENT CONTINUED PAIN OR DISTRESS					
Clinical Observation/Milestone	**Applicable to my proposal? (yes or no)**	**Frequency of observation (e.g., q 2 hrs, q 24 hrs, q weekly)**	**Protocol personnel will perform each observation (identify personnel)**	**Response required upon reaching the humane endpoint (consult vet or euthanize)**	**Provide duration (days, weeks, etc.) of monitoring or a scientific justification for not using the milestones listed**
Infection unrelated to the protocol	Select Value:	Select Value:	Select Value:	Select Value:	
Not eating or drinking (will require individual housing to effectively assess)	Select Value:	Select Value:	Select Value:	Select Value:	
Decreased fecal and urine output (will require individual housing to effectively assess)	Select Value:	Select Value:	Select Value:	Select Value:	
Delayed wound healing (requires checking at least daily until suture removal)	Select Value:	Select Value:	Select Value:	Select Value:	
Sudden behavioral change (Ex. aggression, guarding, hiding)	Select Value:	Select Value:	Select Value:	Select Value:	
Licking, biting, scratching of the operative / injection site (requires checking at least daily until suture removal	Select Value:	Select Value:	Select Value:	Select Value:	
Poor posture or ambulating difficulty (Ex: tense, tucked-up, stiff gait)	Select Value:	Select Value:	Select Value:	Select Value:	
Lost hair coat condition (Ex: ruffled fur, lack of grooming, piloerection)	Select Value:	Select Value:	Select Value:	Select Value:	

HUMANE ENDPOINTS THAT WILL PROMPT INTERVENTION TO PREVENT CONTINUED PAIN OR DISTRESS					
Clinical Observation/Milestone	**Applicable to my proposal? (yes or no)**	**Frequency of observation (e.g., q 2 hrs, q 24 hrs, q weekly)**	**Protocol personnel will perform each observation (identify personnel)**	**Response required upon reaching the humane endpoint (consult vet or euthanize)**	**Provide duration (days, weeks, etc.) of monitoring or a scientific justification for not using the milestones listed**
Sudden activity level change (Ex: restlessness, pacing, reluctance to move)	Select Value:	Select Value:	Select Value:	Select Value:	
Unexpected sweating or salivation (Ex: stressed rodents salivate excessively when stressed)	Select Value:	Select Value:	Select Value:	Select Value:	
Painful' facial expression (Ex: grimace, eyes dull, pupils dilated, pinning of ears)	Select Value:	Select Value:	Select Value:	Select Value:	
Oculonasal discharge (Ex: rats shed porphyrin pigment when stressed)	Select Value:	Select Value:	Select Value:	Select Value:	
Teeth grinding (Ex: More common sign in rabbits, livestock)	Select Value:	Select Value:	Select Value:	Select Value:	
Signs of moderate to severe pain or distress that was not anticipated by the study plan	Select Value:	Select Value:	Select Value:	Select Value:	
Body weight loss exceeding 15% of free feeding bodyweight relative to an age matched reference (Ex: Requires regular weighing)	Select Value:	Select Value:	Select Value:	Select Value:	
Self-mutilation (requires checking at least daily until suture removal)	Select Value:	Select Value:	Select Value:	Select Value:	
Neurological disorders (e.g., seizures, blindness, ataxia) that were not anticipated by the study plan	Select Value:	Select Value:	Select Value:	Select Value:	
Cardiopulmonary disorders (e.g., sudden weakness, vascular collapse, coma) that were not anticipated by the study plan	Select Value:	Select Value:	Select Value:	Select Value:	
Abnormal feeding or defecation for 48 hours (e.g., decreased feed or water intake and/or decreased fecal production that is unrelated to the study plan)	Select Value:	Select Value:	Select Value:	Select Value:	
Non-weight bearing for 72 hours (e.g., difficulty walking, inability to maintain upright posture)	Select Value:	Select Value:	Select Value:	Select Value:	
Other humane endpoints which will be employed in this project:					