

Institutional Animal Care and Use Committee (IACUC) Tumors in Rodents - Guidelines for Euthanasia

Purpose:

The purpose of this document is to provide general end points for experimentally induced neoplasia (tumors) in rodents. Investigators producing tumors in rodents should use this document as a reference in preparing their IACUC protocol form. The committee recognizes that these general guidelines will not be applicable in all cases; however, the committee assumes that all projects will be in compliance with these guidelines unless alternate procedures are clearly described and justified in the IACUC protocol form.

Background:

Many tumors grow rapidly and can compromise the health and well-being of the research animals. If the tumor is subcutaneous or on the skin's surface, it can become large enough to interfere with the animal's locomotion, grooming, and ability to access food and water. In addition, these tumors can ulcerate and result in secondary bacterial infections. If the tumor is growing in the animal's abdominal or chest cavity, it can compromise respiration, food intake, and in some cases, locomotion.

Policy:

Each project involving tumor production in rodents should define a set of conditions under which the affected animals will be euthanized. Use of survival time as an end point is rarely justifiable and should be avoided. Animals should be euthanized before their tumor burden becomes excessive and before the animals become debilitated. Four general criteria for euthanasia are given:

- Animals which have subcutaneous or skin tumors should be humanely euthanized when the tumor size exceeds 1.5 centimeter in diameter for mice, three centimeters in rats, or the PI must request consultation with OLAC to assess the health status of the animal. All animals should also be euthanized if a tumor ulcerates prior to reaching this size.
- In some studies, either the tumor itself or anti-tumor therapies may cause the animal to lose condition. In these studies, body condition scoring (BCS) should be used.¹ Animals with a BCS of 2 will be reported to the veterinary staff for evaluation. Animals with a BCS of 1 will be euthanized immediately.
- Some tumors, depending on type and location, may interfere with the function of vital organs, such as the lungs or digestive tract. If animals are seen to be in distress (e.g. labored breathing) due to an experimentally induced tumor, they should be euthanized regardless of the size of the tumor or the BCS of the animal.
- In addition, some tumors may interfere with locomotion, making it difficult for the

animal to reach food or water. If the animal is unable to reach food or water, it should be euthanized.

Animals in which tumors have been induced should be checked at least once daily - either by the principal investigator or by animal care staff. Animals that fall into any of the three categories listed above should be reported to the principal investigator. The principal investigator will examine the animal and take appropriate steps within 24 hours of receiving such a report.

In the case of very rapidly growing tumors or other situations in which the progression of clinical signs is likely to be rapid, the principal investigator or his/her staff must examine the animals daily.

Guidelines for animals bearing ascites tumors are addressed in a separate guideline.

IACUC approved: 11/4/97

IACUC modified and approved: ___1/8/2008_____

1. Ullman-Cullere, M and Foltz, C.J. 1999. Body Condition Scoring: a rapid and accurate method for assessing health status in mice. LAS 49(3): 319-323.