

Blood Volume Collection Guidelines

Guidelines for Single and Multiple Sampling:

1. A maximum of 15% of the animal's total blood volume may be safely collected during a SINGLE sampling period. The single sampling period may involve a single blood collection, or multiple collections over a short period such as 24 to 48 hours. The single sampling period may contain multiple blood draws, but the total volume collected should not exceed 15% of blood volume.
 - a. Use the chart to find blood volume (ml/kg) for the chosen species.
 - b. Calculate the total blood volume using the animal's weight in kg.
 - c. Multiple the results from (b) by 15.

It is recommended that blood collections of 10 to 15% of total blood volume be spaced at least two weeks apart.

2. Blood collections of up to 7.5% of total blood volume may be collected weekly.

Blood collection volumes that exceed these guidelines require consultation with the veterinary staff and approval by the IACUC. The total blood volume and recommended collection amounts are based on normal, healthy animals. The amounts may be reduced for very young, aged or debilitated animals.

References:

1. ILAR News, Volume 31, No. 4, Fall 1989, pp. 5-20.
2. Canadian Council on Animal Care, *Guide to the Care and Use of Experimental Animals*, Vol. 1, 2nd Edition, 1993, pp. 173-174.

Species	Total Blood Volume (Average) ¹	Maximum Allowable Withdrawal Without Consultation ²
Mouse	75 ml/kg	11 ml/kg
Rabbit	61 ml/kg	9 ml/kg
Rat	57.5 ml/kg	9 ml/kg

¹ from Canadian Council on Animal Care, *Guide to the Care and Use of Experimental Animals*

² volumes rounded to nearest whole number. These volumes are based on a 15% blood volume sampling, and are the maximum amounts to be taken without veterinary consultation.