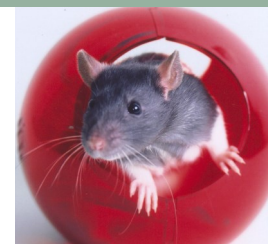


The volume of blood removed and the frequency of sampling should be based on the purpose of the scientific procedure and the total blood volume of the animal. As a general principle, sample volumes and frequency of sampling should be kept to a minimum. (NC3Rs 2023)



How much blood does a mouse have?

On average, mice have around 58.5 ml of blood per kg of bodyweight.

A mouse weighing 25 g would therefore have a total blood volume (TBV) of approximately 58.5 ml/kg x 0.025 kg = 1.46 ml (NC3Rs 2023).

No more than 10% of total blood volume in 24 hrs and 15% of total blood volume in any 28-day period will be removed.

You can use this table to work out how much blood can be taken (10% or 15%) using the mouse's weight.

Disclaimer: Always refer to your PPL for specific conditions. Take any wastage into account (needle, blood loss etc).

Mouse Weight (g)	Total Blood Volume (ml)	10% Within 24hrs (µl)	15% Within 28 days (µl)
24	1.40	140	210
24.5	1.43	140	215
25g	1.46	146	220
26	1.52	150	230
26.5	1.55	155	230
27	1.58	160	240
28	1.64	160	240
29	1.70	170	255
30	1.75	175	260
31	1.81	180	270
32	1.87	190	285
33	1.93	190	285
34	1.99	200	300
35	2.05	200	300
36	2.1	200	300
37	2.16	210	320
38	2.22	220	330
39	2.28	230	340
40	2.34	230	350

Acclimatisation must be considered a requirement to minimise stress in mice blood sampling techniques. The use of the saphenous vein for blood sampling, despite the handling needed, could be considered a less stressful technique than tail docking or tail phlebotomy.' (Marin *et al*, 2023)

