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Cardiac blood collection (Terminal bleed)

SCOPE

Cardiac blood collection is used as a terminal procedure to collect a maximum volume of blood directly from the heart which is used for laboratory tests. The mouse must be anaesthetised and once the blood sample is collected the mouse must be humanely euthanased, usually by cervical dislocation.

AUTHORISATION TO UNDERTAKE PROCEDURE

To perform this technique animal technician or investigator must be competent as determined in BRC training program for cardiac puncture. Investigators must be approved by AEC to perform this technique.

SPECIAL REQUIREMENTS/SAFETY

- Disposal of sharps into approved container
- Wear personal protective equipment
- Transfer the blood from syringe to sample tube gently to ensure blood does not clot.

MATERIALS/EQUIPMENT

- Anaesthetic agent
  Injectable as per SOP 49 or Inhalation [Isoflurane, CO2 or Penthrane]
- 25G needle
- 2mL syringe
- Blood sample tubes
- Alcohol swab

PROCEDURE

- Attach needle to syringe and label blood sample containers
- Anaesthetise mouse and when reflexes absent place mouse on its back
- Swab mouse with alcohol in upper abdomen region
- Using a 25G needle with syringe attached insert the needle at 30^{o} angle just behind ziphoid process [end of the breastbone]. Aim for the left shoulder.

- Pull back on the syringe gently and slowly move the needle forward until blood appears in the hub of the needle, pull back on the syringe gently until the blood ceases to flow into the syringe, can obtain 0.5-1.0mL
- If sample is to remain unclotted [heparinised], remove the needle from the syringe and gently put blood into container. Gently rotate the container to ensure anti-coagulant and sample are mixed together.
- Euthanise mouse as per SOP 26, confirm death, and dispose of body

ASSOCIATED PROCEDURE/S

SOP 26: *Euthanasia of Mice and Rats*
SOP 49: *Injectable anaesthesia in mice*

REFERENCES

Australian code for the care and use of animals for scientific purposes (8th Edition 2013)

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