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Mouse sample collection for metabolomics studies V.1

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Protocol status: Working

We use this protocol and it's working

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The protocols.io team notes that research involving animals and humans must be conducted according to internationally-accepted standards and should always have prior approval from an Institutional Ethics Committee or Board.

Abstract

Protocol used in the Mazmanian lab for collecting brain and gut tissues and plasma from mouse for metabolomics

Samples collection for metabolomics studies

- 1 At 4 months of age, mice were sacrificed by decapitation
- 2 The brain was rapidly removed from the skull and placed in an ice-chilled stainless steel coronal matrix
- 3 Brain tissue was sectioned in slices of approximately 1 mm
- 4 Substantia nigra, striatum, motor cortex(referred to as cortex) and caudal brainstem (referred to as brainstem) were dissected within three minutes using a brain atlas as reference¹
- 5 Gut tissue and contents were dissected on an ice-chilled stainless steel dissection tray
- 6 All tissue samples were weighed, stored in and stored at Precellys[®] 2 mL Soft Tissue Homogenizing Ceramic Beads tubes (Catalog number: 10011152), snap-frozen in dry ice and stored at -80°C until processing
- 7 Trunk blood was collected in BD Vacutainer[™] Hemogard[™] Closure Plastic K3-Edta Tubes (Catalog number: 15349700) and kept at room temperature before plasma separation
- 8 Plasma was separated by centrifugation at 2,500 x g for 10 minutes
- 9 Plasma was transferred to a pre-cooled collection vial Thermo Scientific Pierce 1.5 mL Capacity Microcentrifuge Tubes (Catalog number: 69715) and stored at -80°C until processing
- 10 References:
 1. Paxinos, G. and Franklin, K.B.J. (2001) The Mouse Brain in Stereotaxic Coordinates. 2nd Edition, Academic Press, San Diego.