



Tail Cuff Blood Pressure Determination

Version: 1
 Replaced by version: N/A
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Summary: This protocol provides information for the non-invasive measurement of blood pressure--tail cuff blood pressure determination operated by CODA tail-cuff blood pressure system in mice.

Reagents and Materials:

Reagent/Material	Vendor	Stock Number
CODA® tail-cuff blood pressure system	Kent Scientific	CODA-HT8

Protocol:

WARNING HAZARDOUS CONDITION WARNED AGAINST. This comment describes a hazardous condition to which the technician may be exposed in the performance of this protocol. It also contains directions on how to avoid or minimize the danger. Warnings are always and only used for personnel safety, and precedes the first step that will expose the technician to the hazard.

1. Setting up Equipment and Software
 - 1.1 Turn on warming platforms. The ideal temperature for blood pressure (BP) monitoring is 30 ~ 35 °C. If the mouse tail is too cold, BP will not be read. However, if the warming platform is too hot, mice will be stressed and may lead to severe dehydration or even death.
 - 1.2 Select appropriate mouse holder and warm the holder, too.
 - 1.3 Turn on the CODA Blood Pressure System and then double-click the icon of CODA program on computer.

2. Mouse preparation
 - 2.1 Gently handle the mouse and place it in the holder (do not force).
 - 2.2 Attach the end piece of the mouse holder carefully in order not to pinch the tail or any other body parts.
 - 2.3 Lead the mouse tail through the O-Cuff first and then through the VPR-Cuff.
 - 2.4 Fasten the cuffs by sliding the hose into the notch on top of the mouse holder.
 - 2.5 Let mouse acclimate and warm in the holders with the tail cuff on for 3-5 minutes and use a blanket to cover mouse tails at the same time.

3. Blood pressure measurement
 - 3.1 In CODA software, select file and choose new, enter mouse information and the names of experiment and researcher under New select Experiment or Session according to the instructions on the screen.
 - 3.2 Click the “Finish” button will begin blood pressure measurements at once.
 - 3.3 Measure blood pressure for 20 cycles each mouse.
 - 3.4 Release the mouse and put them back to the cage immediately.

4. Data collection and processing
 - 4.1 Export the data as an excel sheet to designed folders.
 - 4.2 Measure blood pressure a minimum of 3 days and a maximum of 5 consecutive days at the same time each day
 - 4.3 Calculate the average systolic BP, diastolic BP and mean arterial pressure (MAP) for each mouse.

Reagent Preparation: N/A.