

Asthma Sensitization by Inhalation 吸入性氣喘致敏疾病模式

1. Purpose

- 1.1 Mice are sensitized and challenged through the airway with ovalbumin (OVA) to induce airway inflammation in a murine asthma model.

2. Safety Requirements

- 2.1 General laboratory procedures should be followed, which include: no eating, no chewing gum, no drinking, and no applying of cosmetics in the work area. The researcher must wear the laboratory coat, gloves and a mask during the experiment.

3. Referenced Documents

- 3.1 http://www.buxco.com/products_technologies_wholebodyplethysmography.a.spx

4. Notes

- 4.1 The mice must be maintained in a controlled environment with stable temperature, humidity, and air pressure. Keep minimal disturbing and stress on the tested mice whenever is possible.
- 4.2 The OVA-induced airway inflammation is age/sex/strain dependent. Therefore, we suggest to use 5~7week-old female BALB/c mice.
- 4.3 We suggest to use age-match (age within the same week) and weight-match female BALB/c mice.

5. Quality Control

- 5.1 We use mice with age in the same week-old and with similar body weight to control experiment variation.
- 5.2 We use the same size of aerosol box for PBS and OVA.
- 5.3 We use the same aerosol volume and time to control mice inhalation volume.

6. Equipment

- 6.1 Nebulizer system for asthma inhalation method (aerosol volume \geq 0.25ml/min ; aerosol particle: 0.5 μ m~5 μ m)
- 6.2 Aerosol box (L*W*H (cm):30X30X20)

7. Supplies

- 7.1 Cap
- 7.2 Gloves
- 7.3 Mask
- 7.4 Ethanol 70%
- 7.5 HOCl
- 7.6 Paper towel
- 7.7 Ovalbumin (OVA)
- 7.8 PBS
- 7.9 26G needle
- 7.10 Syringe 1ml

8. Procedures

- 8.1 We prepare PBS and OVA 200 μ l (50 μ g OVA and 4mg of aluminum hydroxide

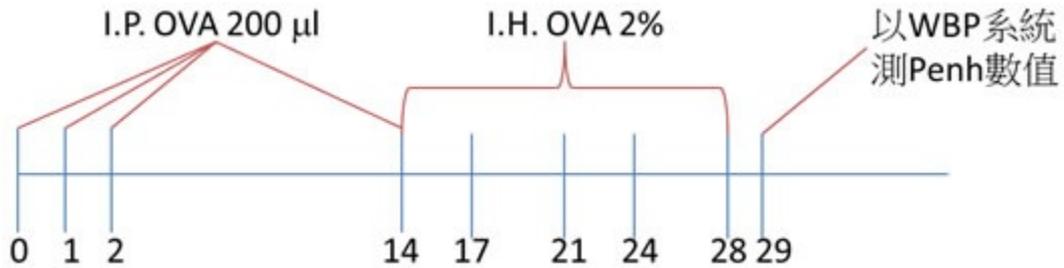
in 200 μ l pH=7.4 PBS).

8.2 All mice are immunized on 4 different days (i.e., day 0, 1, 2, and 14) by i.p. injections of 0.2 ml PBS/OVA.

8.3 The mice are exposed to aerosolized OVA for 20 min/day, 2 days/week for 2.5 weeks.

8.4 Mice Penh will be measured by using buxco WBP system on the 29th day.

8.5 Sacrifice mice after Penh measurement.



P.S.The researcher should avoid inhaling the aerosolized OVA, because it would induce inflammation.

