

IgE-mediated Chronic Allergic Inflammation (IgE-CAI)

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[Abstract] This system is one of a chronic allergic inflammation model. A single subcutaneous injection of antigens elicits a delayed-type response manifested by ear swelling. The entire response consists of three phases: Immediate, late, and chronic. The early-phase swelling peak within 1 h after allergen challenge is followed by the late-phase swelling 6-10 h later. Importantly, the ear swelling at the late-phase started on day2 and peak on day4. This late-phase ear swelling response is defined as IgE-mediated chronic allergic inflammation (IgE-CAI) and mainly regulated by basophils.

Materials and Reagents

1. Mice (C57BL/6, BALB/C)
2. Ascites of the trinitrophenyl (TNP)-specific IgE mAb from the IGELb4 (ATCC, catalog number: TIB141)
3. TNP11-OVA (BioTechniques, catalog number: T-5051-10)
4. Ovalbumin (OVA) (grade V) (Sigma Aldrich, catalog number: A5503)
5. Phosphate buffered saline (PBS) (Life Technologies, Gibco®, catalog number: 20012)

Equipment

1. Needle (29G1/2)
2. Syringe (1 ml) (Terumo Medical Corporation, catalog number: SS-10M2913)
3. Dial thickness gauge caliper (Ozaki, catalog number: G-1A)

Procedure

1. Mice are sensitized with TNP-IgE mAb intravenous injection of ascites (200 µl).
2. One day later, the left ears of mice are injected subcutaneously with 10 µg of TNP11-OVA in 10 µl of PBS.
3. And their right ears are injected with equal amount of OVA as a control.

4. Ear thickness is measured with a dial thickness guage caliper for 7 days.

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