

Anti-FcεRIα (human IgE receptor) antibody, mouse monoclonal (CRA1), biotinylated

Cat.#72-003, Size:50 ug

Background:

FcεRIα is subunit of the high affinity receptor for IgE to which IgE directly binds. FcεRIα is a tetrameric complex consisting of one α, one β and two γ subunits. The latter two are required for signal transduction activity. The FcεRIα complex plays an important role in triggering allergic responses. The CRA1 (AER37) monoclonal antibody reacts with the FcεRIα subunit on a region that does not overlap the region of the IgE binding site, thus it does not compete with IgE for the receptor binding. Since the CRA2 (AER24) monoclonal antibody reacts with the IgE binding site on FcεRIα, it competes with IgE for the receptor binding. Combining the two antibodies, one can quantitatively measure the amounts of the IgE-bound FcεRIα.

The IgG fraction was purified from serum free culture medium of mouse hybridoma (CRA1) by propriety chromatography under mild conditions. This product is a biotinylated IgG ([biotin]/[IgG] = 8.9; Lot dependent)) produced from the IgG fraction.

Specifications:

Reactivity: human, house musk shrew

Immunogen: Recombinant extracellular portion of human FcεR1α (corresponding to amino acids Met-26-197, where signal peptide is 1-25)

Epitope: 26-110 amino acids

Isotype: IgG2b

Form: Biotynylated monoclonal antibody (IgG) 1.6 mg/ml (depends on Lot) in PBS (pH 7.4), 50% glycerol, filter-sterilized, azide free

Storage: Ship at 4°C and store at -20°C (Do not store below -20°C)

Applications:

- Western blotting (~1ug/ml)
- Flow Cytometry (FC) (1~5 ug/ml)
- IHC-P, IHC-F (~1 ug/ml)
- Titration of IgE-bound receptor in combination with CRA2 antibody (Ref.3)
- ELISA

Data Link: UniProtKB/Swiss-Prot [P12319](#) (FCERA_HUMAN)

References: This antibody has been used in the following publications.

1. Suzuki K et al. The Fc receptor (FcR) γ subunit is essential for IgE-binding activity of cell-surface expressed chimeric receptor molecules constructed from human high-affinity IgE receptor (FcεRI) α and FcRγ subunits. Mol Immunol. 1998 Apr;35(5):259-70. PMID: [9747886](#). **WB (human)**

2. Yanagihara Y. et al. Recombinant soluble form of the human high-affinity immunoglobulin E (IgE) receptor inhibits IgE production through its specific binding to IgE-bearing B cells. *J Clin Invest.* 1994 Nov; 94(5): 2162–2165. doi: [10.1172/JCI117574](https://doi.org/10.1172/JCI117574) PMID: PMC294671. **FC (human)**
3. Hayashi S et al. Detection of anti-IgE and anti-FcεRI α chain auto-antibodies in patients with atopic dermatitis. *Allergology International* Volume 49, Issue 1, 2000, Pages 47-54. **ELISA (human)**
4. Yoshimura-Uchiyama C. et al. Comparative effects of basophil-directed growth factors *Biochem Biophys Res Commun.* 2003 Mar 7;302(2):201-6. PMID:[12604332](https://pubmed.ncbi.nlm.nih.gov/12604332/) **FC (human)**

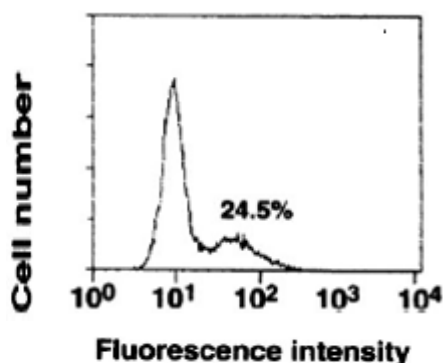


Figure: Flow-cytometry analysis with anti- FcεRIα antibody (CRA1), biotin-conjugated.

U266 cells were incubated with recombinant soluble FcεRIα and further reacted with biotin-conjugated anti-FcεRIα antibody (CRA1), followed by PE-conjugated streptavidin. The stained cells were analyzed by flow cytometry.

Related product:

- # 72-001 Anti- FcεRIα (human IgE receptor) monoclonal (CRA1)
- # 72-004 Anti- FcεRIα (human IgE receptor) monoclonal (CRA1), FITC conjugated
- #72-005 Anti- FcεRIα (human IgE receptor) monoclonal (CRA2)
- #72-007 Anti- FcεRIα (human IgE receptor) monoclonal (CRA2), biotinylated
- #72-008 Anti- FcεRIα (human IgE receptor) monoclonal (CRA2), FITC conjugated