



## MONOCLONAL ANTIBODY

*For research use only. Not for clinical diagnosis.*

**Catalog No. BAM-72-001-EX**

# Anti-Fc $\epsilon$ R1 $\alpha$ (human IgE receptor) (Clone No. CRA1)

### BACKGROUND

Fc $\epsilon$ R1 $\alpha$  is subunit of the high affinity receptor for IgE to which IgE directly binds. Fc $\epsilon$ R1 is a tetrameric complex consisting of one  $\alpha$ , one  $\beta$  and two  $\gamma$  subunits. The latter two subunits are required for signal transduction activity. The Fc $\epsilon$ R1 complex plays an important role in triggering allergic responses.

The CRA1 (AER37) monoclonal antibody reacts with the Fc $\epsilon$ R1 $\alpha$  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 Fc $\epsilon$ R1 $\alpha$ , it competes with IgE for the receptor binding. Combining the two antibodies, one can quantitatively measure the amounts of the IgE-bound Fc $\epsilon$ R1 $\alpha$ .

This product is the IgG fraction purified from serum-free culture medium of mouse hybridoma (CRA1) by propriety chromatography under mild conditions. Properties of CRA1 and CRA2 antibodies have been extensively characterized by Prof. Ra (Ref. 5, 6).

<b>Product type</b>	Primary antibodies
<b>Host</b>	Mouse
<b>Source</b>	Culture Supernatant
<b>Form</b>	Liquid
	Purified monoclonal antibody (IgG) 1mg/ml in PBS (pH 7.4), 50% glycerol, filter-sterilized, azide free
<b>Volume</b>	100 $\mu$ g
<b>Concentration</b>	
<b>Specificity</b>	
<b>Antigen</b>	Recombinant extracellular portion of human Fc $\epsilon$ R1 $\alpha$ (ref. 5)
<b>Clone</b>	CRA1
<b>Isotype</b>	IgG2b ( $\kappa$ )

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**Application notes** WB, FACS, IHC, Titration of IgE-bound receptor in combination with CRA2 antibody

### Recommended use

### Recommended dilutions

Western blotting: ~1ug/ml (Ref.6)

Optimal dilutions/concentrations should be determined by the end user.

Data Link: UniProtKB/Swiss-Prot [P12319](#) (FCERA\_HUMAN)

### Staining Pattern

### Cross reactivity

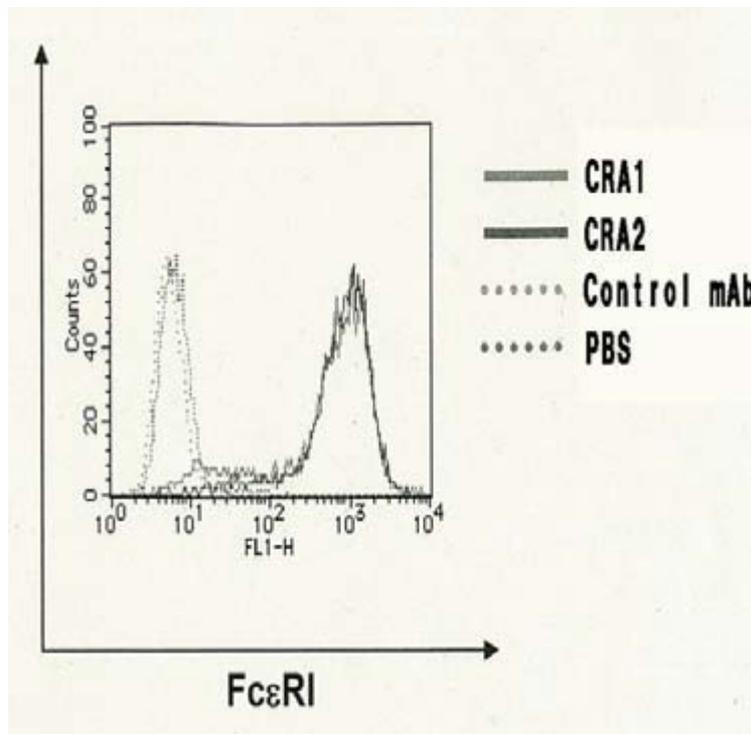
**Storage** -20°C (long period, -70°C)



**References**

(This product was used in references 3-6.)

- 1) Ra C *et al* "A macrophage Fc gamma receptor and the mast cell receptor for IgE share an identical subunit" *Nature* **341**:752-754 (1989) PMID: [2529442](#)
- 2) Hakimi J *et al* "The alpha subunit of the human IgE receptor (FcεRI) is sufficient for high affinity IgE binding" *J Biol Chem* **265**:22079-22089 (1990) PMID: [2148316](#)
- 3) Yamaguchi M *et al* "IgE enhances Fc epsilon receptor I expression and IgE-dependent release of histamine and lipid mediators from human umbilical cord blood-derived mast cells: synergistic effect of IL-4 and IgE on human mast cell Fc epsilon receptor I expression and mediator release" *J Immunol* **162**:5455-5465 (1999) PMID: [10228025](#)
- 4) Suzukawa M *et al* "IgE- and FcεRI-mediated migration of human basophils" *Int Immunol* **17**: 1249-1255 (2005) PMID: [16103029](#)
- 5) Takai T *et al* "Epitope analysis and primary structures of variable regions of anti-human FcεRI monoclonal antibodies, and expression of the chimeric antibodies fused with human constant regions" *Biosci Biotechnol Biochem* **64**:1856-1867(2000) PMID: [11055388](#)
- 6) Takai T *et al* "Direct expression of the extracellular portion of human FcεRIα chain as inclusion bodies in Escherichia coli" *Biosci Biotechnol Biochem* **65**:79-85 (2001) PMID: [11272849](#)



FACS analysis of CHO/αβγ cells ( $1 \times 10^5$ ) with CRA1 and CRA2 antibodies by indirect-immunostaining method using FITC-labeled secondary antibody.

**Related Products**

BAM-72-005-EX Anti- FcεR1α (human IgE receptor) monoclonal (CRA2)

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Manufactured by BioAcademia, Inc.



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