

Fc ϵ RI α (X-22): sc-100279

BACKGROUND

IgE Fc receptor I binds to the Fc region of immunoglobulin ϵ chain with high affinity, and is responsible for initiating the allergic response. Binding of allergen to receptor-bound IgE leads to cell activation and the release of mediators such as histamines, responsible for the manifestations of allergy. IgE Fc receptor I also induces the secretion of important lymphokines, effectors of the hypersensitivity response. Receptor I is a tetramer of a heavily glycosylated α chain (Fc ϵ RI α), β chain and two disulfide linked γ chains. Fc ϵ RI α is exposed to the outer surface of the cell and contains the IgE binding site. Expression of IgE Fc RI mRNA appears to be highly specific and has been identified in mast cells and IL-3 dependent myeloid-monocyte precursor. Alternative splicing of the genomic transcript for the α chain has also been identified.

REFERENCES

- Hackel, W., et al. 1968. Foreign body as cause of a large urethral calculus and diverticulum formation. *Z. Urol. Nephrol.* 61: 827-829.
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- Le Coniat, M., et al. 1990. The human genes for the α and γ subunits of the mast cell receptor for immunoglobulin E are located on human chromosome band 1q23. *Immunogenetics* 32: 183-186.
- Pang, J., et al. 1993. Characterization of the gene for the human high affinity IgE receptor (Fc ϵ RI) α chain. *J. Immunol.* 151: 6166-6174.
- Gyimesi, E., et al. 2004. Basophil CD63 expression assay on highly sensitized atopic donor leucocytes- α useful method in chronic autoimmune urticaria. *Br. J. Dermatol.* 151: 388-396.
- Taube, C., et al. 2004. Mast cells, Fc ϵ RI, and IL-13 are required for development of airway hyperresponsiveness after aerosolized allergen exposure in the absence of adjuvant. *J. Immunol.* 172: 6398-6406.
- SWISS-PROT/TrEMBL (P12319). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>.

CHROMOSOMAL LOCATION

Genetic locus: FCER1A (human) mapping to 1q23.2.

SOURCE

Fc ϵ RI α (X-22) is a mouse monoclonal antibody raised against recombinant Fc ϵ RI α of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Fc ϵ RI α (X-22) is recommended for detection of Fc ϵ RI α of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Fc ϵ RI α siRNA (h): sc-45258, Fc ϵ RI α shRNA Plasmid (h): sc-45258-SH and Fc ϵ RI α shRNA (h) Lentiviral Particles: sc-45258-V.

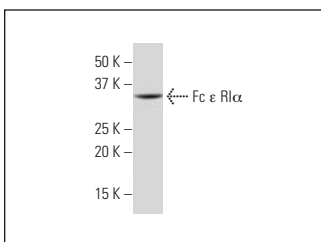
Molecular Weight of Fc ϵ RI α : 60 kDa.

Positive Controls: A549 cell lysate: sc-2413.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Fc ϵ RI α (X-22): sc-100279. Western blot analysis of Fc ϵ RI α expression in A549 whole cell lysate.

SELECT PRODUCT CITATIONS

- Pawelczyk, T., et al. 2014. Altered response of fibroblasts from human tympanosclerotic membrane to interacting mast cells: implication for tissue remodeling. *Int. J. Biochem. Cell Biol.* 57: 35-44.
- An, Y.F., et al. 2021. Role of Fc γ RI in antigen-dependent eosinophil activation in patients with allergic rhinitis. *Am. J. Rhinol. Allergy* 35: 86-97.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.