

Fc ϵ RI α (1F2A9): sc-517280

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.
- Shimizu, A., et al. 1988. Human and rat mast cell high-affinity immunoglobulin E receptors: characterization of putative α -chain gene products. *Proc. Natl. Acad. Sci. USA* 85: 1907-1911.
- 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—a useful method in chronic autoimmune urticaria. *Br. J. Dermatol.* 151: 388-396.

CHROMOSOMAL LOCATION

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

SOURCE

Fc ϵ RI α (1F2A9) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 42-103 of Fc ϵ RI α of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Fc ϵ RI α (1F2A9) is available conjugated to agarose (sc-517280 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-517280 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517280 PE), fluorescein (sc-517280 FITC), Alexa Fluor® 488 (sc-517280 AF488), Alexa Fluor® 546 (sc-517280 AF546), Alexa Fluor® 594 (sc-517280 AF594) or Alexa Fluor® 647 (sc-517280 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-517280 AF680) or Alexa Fluor® 790 (sc-517280 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Fc ϵ RI α (1F2A9) 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), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

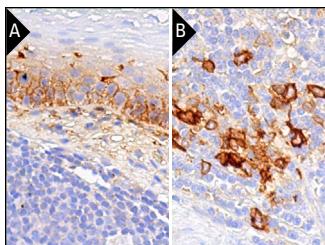
Suitable for use as control antibody for Fc ϵ RI α siRNA (h): sc-45258, Fc ϵ RI α shRNA Plasmid (h): sc-45258-SH and Fc ϵ RI α shRNA (h) Lentiviral Particles: sc-45258-V.

Molecular Weight of Fc ϵ RI α : 60 kDa.

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) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Fc ϵ RI α (1F2A9): sc-517280. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing membrane staining of squamous epithelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane and cytoplasmic staining of subset of cells in red pulp (B).

STORAGE

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

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.