SANTA CRUZ BIOTECHNOLOGY, INC.

Fc ε RIγ (E-12): sc-390222

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IgE Fc receptor I binds to the Fc region of immunoglobulins 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. It is a tetramer of a heavily glycosylated α chain, a β chain, and two disulfide linked γ chains. The γ chains from Fc ε RI are also subunits of other Fc receptors. The γ subunit is thought to be functionally significant in allowing the IgE Fc receptor to reach the cell surface. The cytoplasmic domains of the β and γ subunits each contain a conserved consesus sequence, ITAM, (immunoreceptor tyrosine activation motif). Phosphorylation of a pair of conserved tyrosine residues within this motif is required for signal transduction in mast cells and other hemopoietic cell types.

CHROMOSOMAL LOCATION

Genetic locus: FCER1G (human) mapping to 1q23.3; Fcer1g (mouse) mapping to 1 H3.

SOURCE

Fc ε RIγ (E-12) is a mouse monoclonal antibody raised against amino acids 1-86 representing full length Fc RIγ of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Fc ε RIγ (E-12) is available conjugated to agarose (sc-390222 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390222 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390222 PE), fluorescein (sc-390222 FITC), Alexa Fluor® 488 (sc-390222 AF488), Alexa Fluor® 546 (sc-390222 AF546), Alexa Fluor® 594 (sc-390222 AF594) or Alexa Fluor® 647 (sc-390222 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390222 AF680) or Alexa Fluor® 790 (sc-390222 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Fc ε RIγ (E-12) is recommended for detection of Fc ε RIγ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Fc ε RIγ siRNA (h): sc-45267, Fc ε RIγ siRNA (m): sc-45268, Fc ε RIγ shRNA Plasmid (h): sc-45267-SH, Fc ε RIγ shRNA Plasmid (m): sc-45268-SH, Fc ε RIγ shRNA (h) Lentiviral Particles: sc-45267-V and Fc ε RIγ shRNA (m) Lentiviral Particles: sc-45268-V.

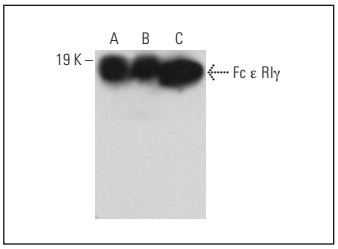
Molecular Weight of Fc ε RIγ: 9 kDa.

Positive Controls: human bone marrow extract: sc-363752, human lung extract: sc-363767 or human spleen extract: sc-363779.

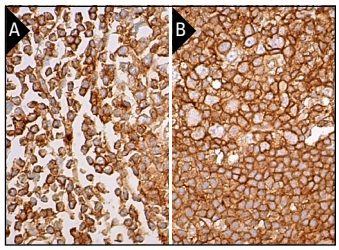
STORAGE

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

DATA



Fc ε RIγ (E-12): sc-390222. Western blot analysis of Fc ε RIγ expression in human bone marrow (**A**), human lung (**B**) and human spleen (**C**) tissue extracts.



Fc ε RIγ (E-12): sc-390222. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing membrane and cytoplasmic staining of germinal center cells and membrane staining of non-germinal center cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing membrane staining of germinal center cells and membrane and cytoplasmic staining of non-germinal center cells (**B**).

SELECT PRODUCT CITATIONS

1. Sayyaf Dezfuli, B., et al. 2018. Pike intestinal reaction to *Acanthocephalus lucii (Acanthocephala):* immunohistochemical and ultrastructural surveys. Parasit. Vectors 11: 424.
2. Hardy, A.T., et al. 2018. Significant hypo-responsiveness to GPVI and CLEC-2 agonists in pre-term and full-term neonatal platelets and following immune thrombocytopenia. Thromb. Haemost. 118: 1009-1020.
3. Onselaer, M.B., et al. 2020. Comparison of the GPVI inhibitors losartan and honokiol. Platelets 31: 187-197.
4. Sur, S., et al. 2021. FcER1: a novel molecule implicated in the progression of human diabetic kidney disease. Front. Immunol. 12: 769972.
5. Xia, M., et al. 2022. Identification of hub genes and therapeutic agents for IgA nephropathy through bioinformatics analysis and experimental validation. Front. Med. 9: 881322.

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.