SANTA CRUZ BIOTECHNOLOGY, INC.

IgE (154/102): sc-53346

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Immunoglobulins are four-chain, Y-shaped, monomeric structures comprised of two identical heavy chains and two identical light chains held together through interchain disulfide bonds. The chains form two domains, the Fab (antigen binding) fragment and the Fc (constant) fragment. Immunoglobulin epsilon (IgE) exists as a monomer. The IgE heavy chain is an ε chain, and the light chains are either κ or λ chains. IgE is significantly involved in the allergic response of the body. It binds to receptors on the surface of basophils, mast cells and activated eosinophils. One dominant functional activity of IgE is the sensitization of mast cells. IgE binds to the Fc ε RI receptor on the surface of mast cells, causing the cell to release chemicals that induce reactions such as sneezing and coughing. IgE also helps to protect the host against large parasites. It coats the surface of the parasite attracting eosinophils via the Fc ε RI receptor. The eosinophils can then attack the parasites that are too large to be ingested by phagocytes.

REFERENCES

1. Max, E.E., et al. 1982. Duplication and deletion in the human immunoglobulin ε genes. Cell 29: 691-699.
2. Furtado, P.B., et al. 2002. The production and characterisation of a chimaeric human IgE antibody, recognizing the major mite allergen Der p 1 and its chimaeric human IgG_1 anti-idiotype. Mol. Pathol. 55: 315-324.
3. Wan, T., et al. 2002. The crystal structure of IgE Fc reveals an asymmetrically bent conformation. Nat. Immunol. 3: 681-686.
4. Wagner, B., et al. 2003. Monoclonal anti-equine IgE antibodies with specificity for different epitopes on the immunoglobulin heavy chain of native IgE. Vet. Immunol. Immunopathol. 92: 45-60.
5. Karagiannis, S.N., et al. 2003. Activity of human monocytes in IgE antibody-dependent surveillance and killing of ovarian tumor cells. Eur. J. Immunol. 33: 1030-1040.

CHROMOSOMAL LOCATION

Genetic locus: IGHE (human) mapping to 14q13.

SOURCE

IgE (154/102) is a mouse monoclonal antibody raised against IgE of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IgE (154/102) is available conjugated to agarose (sc-53346 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53346 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53346 PE), fluorescein (sc-53346 FITC), Alexa Fluor® 488 (sc-53346 AF488), Alexa Fluor® 546 (sc-53346 AF546), Alexa Fluor® 594 (sc-53346 AF594) or Alexa Fluor® 647 (sc-53346 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53346 AF680) or Alexa Fluor® 790 (sc-53346 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IgE (154/102) is recommended for detection of IgE of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of IgE classical secreted form: 75-79 kDa.

Molecular Weight of IgE glycosylated form: 78-82 kDa.

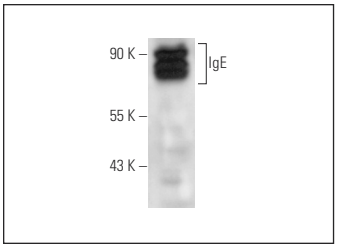
Molecular Weight of IgE membrane form: 88 kDa.

Positive Controls: U266 whole cell lysate: sc-364800.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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



IgE (154/102): sc-53346. Western blot analysis of IgE expression in U266 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Tramentozzi, E., et al. 2012. Inhibition of immunoglobulin secretion from peripheral blood mononuclear cells by glucose-regulated protein94 (Grp94) in allergic subjects. Mol. Cell. Biochem. 365: 47-52.
2. Ruethers, T., et al. 2021. Expanding the allergen repertoire of salmon and catfish. Allergy 76: 1443-1453.
3. Yin, R., et al. 2022. Proteomic landscape subtype and clinical prognosis of patients with the cognitive impairment by Japanese encephalitis infection. J. Neuroinflammation 19: 77.

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.