

IgE (4F4): sc-51994

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 IgG₁ 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.
6. Andrasfalvy, M., et al. 2005. The β subunit of the type I Fc ϵ receptor is a target for peptides inhibiting IgE-mediated secretory response of mast cells. *J. Immunol.* 175: 2801-2806.

CHROMOSOMAL LOCATION

Genetic locus: IGHE (human) mapping to 14q32.33.

SOURCE

IgE (4F4) is a mouse monoclonal antibody raised against IgE of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} in 1.0 ml 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

IgE (4F4) is recommended for detection of ϵ 3 domain of IgE of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

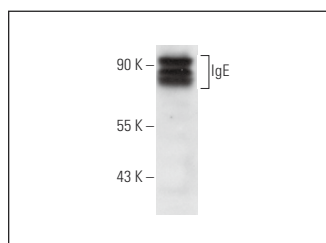
Molecular Weight of IgE classical secreted form: 75-79 kDa.

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.

DATA



IgE (4F4): sc-51994. Western blot analysis of IgE expression in U266 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Wu, G., et al. 2016. Glycoproteomic studies of IgE from a novel hyper IgE syndrome linked to PGM3 mutation. *Glycoconj. J.* 33: 447-456.

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.