

IgE (N-15): sc-34661

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 ϵ (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., Battey, J., Ney, R., Kirsch, I.R. and Leder, P. 1982. Duplication and deletion in the human immunoglobulin ϵ genes. *Cell* 29: 691-699.
2. Furtado, P.B., McElveen, J.E., Gough, L., Armour, K.L., Clark, M.R., Sewell, H.F. and Shakib, F. 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-idiotypic. *Mol. Pathol.* 55: 315-324.
3. Wan, T., Beavil, R.L., Fabiane, S.M., Beavil, A.J., Sohi, M.K., Keown, M., Young, R.J., Henry, A.J., Owens, R.J., Gould, H.J. and Sutton, B.J. 2002. The crystal structure of IgE Fc reveals an asymmetrically bent conformation. *Nat. Immunol.* 3: 681-686.
4. Wagner, B., Radbruch, A., Rohwer, J. and Leibold, W. 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., Wang, Q., East, N., Burke, F., Riffard, S., Bracher, M.G., Thompson, R.G., Durham, S.R., Schwartz, L.B., Balkwill, F.R. and Gould, H.J. 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., Peterfy, H., Toth, G., Matko, J., Abramson, J., Kerekes, K., Vamosi, G., Pecht, I. and Erdei, A. 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 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of IgE of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-34661 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IgE (N-15) is recommended for detection of IgE 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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


 MONOS
Satisfaction
Guaranteed

Try **IgE (154/102): sc-53346** or **IgE (XTE4): sc-51997**, our highly recommended monoclonal alternatives to IgE (N-15).