

# IgE (XTE4): sc-51997

## 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  $\epsilon$  chain, and the light chains are either  $\kappa$ - or  $\lambda$ - 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  $\epsilon$  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  $\epsilon$  RI receptor. The eosinophils can then attack the parasites that are too large to be ingested by phagocytes.

## REFERENCES

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- 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.
- Andrasfalvy, M., Peterfy, H., Toth, G., Matko, J., Abramson, J., Kerekes, K., Vamosi, G., Pecht, I. and Erdei, A. 2005. The  $\beta$  subunit of the type I Fc  $\epsilon$  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 (XTE4) is a mouse monoclonal antibody raised against IgE of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

IgE (XTE4) is recommended for detection of  $\epsilon$  chain of IgE of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

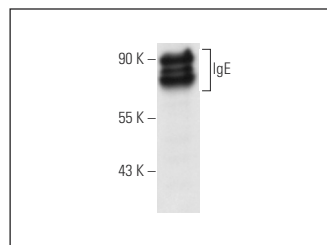
Molecular Weight of IgE classical secreted form: 75-79 kDa.

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

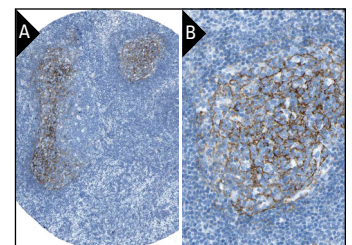
Molecular Weight of IgE membrane form: 88 kDa.

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

## DATA



IgE (XTE4): sc-51997. Western blot analysis of IgE expression in U266 whole cell lysate.



IgE (XTE4): sc-51997. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing membrane staining of reaction center cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

- Liao, Y., Lv, G., Wang, B., Kuang, L. and Wang, X. 2015. Imatinib promotes apoptosis of giant cell tumor cells by targeting microRNA-30a-mediated runt-related transcription factor 2. *Mol. Med. Rep.* 13: 1739-1745.

## 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](http://www.scbt.com) for detailed protocols and support products.