

Product Data Sheet

**Monoclonal (humanized/xolair biosimilar) Anti-Human IgE, aff pure**

**Cat#** 10164-M

Monoclonal (humanized/xolair biosimilar) Anti-Human IgE, unlabeled

**Size:** 100 ul

Immunoglobulin E (IgE) is an immunoglobulin isotype that is found only in mammals. It is a monomeric antibody with 4 Ig-like domains. Its main function is immunity to parasites. IgE is commonly involved with allergies when present in high amounts in the body. It is especially associated with type I hypersensitivity. IgE is an important target for the treatments for allergy and asthma. IgE elicits an immune response by binding to Fc receptors found on the surface of mast cells and basophils. Fc receptors are of two types: FcεRI, the high-affinity IgE receptor and FcεRII, also known as CD23, is the low-affinity IgE receptor.

Omalizumab (**Xolair**, Genentech/Novartis) is a recombinant DNA-derived humanized IgG1k monoclonal antibody. Xolair is a glycosylated monoclonal antibody (~149 kda) produced in Chinese hamster ovary cells (CHO) suspension culture. Xolair inhibits the binding of IgE to the high-affinity IgE receptor (FcεRI) on the surface of mast cells and basophils. It is approved for patients with moderate-to-severe or severe allergic asthma, which is caused by hypersensitivity reactions to certain harmless environmental substances. The drug is administered subcutaneously once every 2 or 4 weeks (150 to 375 mg). Like other protein and antibody drugs, omalizumab causes anaphylaxis (a life-threatening systemic allergic reaction) in 1 to 2 patients per 1,000. Antibodies to Xolair were detected in approximately 1/1723 (< 0.1%) of patients treated with Xolair. Gomaliximab (IDEC Pharmaceuticals Corporation.) is a monoclonal IgG1 antibody acting as an immunosuppressive drug for the treatment of allergic asthma. It targets the low affinity IgE receptor (FcεRII). The drug is a chimeric antibody from *Macaca irus* and *Homo sapiens*.

Omalizumab inhibits the binding of IgE to the high-affinity IgE receptor FcεRI by binding to an epitope on IgE that overlaps with the site to which FcεRI binds. This feature is critical to omalizumab's pharmacological effects because a typical anti-IgE antibody can cross-link cell surface FcεRI-bound IgE and induce mediator release from basophils and mast cells. Although the binding peptide sequence on IgE that is used to bind to low affinity IgE receptor (FcεRII) is different from the sequence used to bind to FcεRI, omalizumab, by steric hindrance, also prevents binding of IgE to FcεRII.

Humanized anti-human IgE (Xolair biosimilar) is a recombinant DNA-derived humanized IgG1k monoclonal antibody is produced by a Chinese hamster ovary cell suspension culture and purified by proprietary methods. Xolair is supplied in PBS, pH 7.4 with no preservatives about 0.5 mg/ml in liquid or lyophilized in the same buffer.

**Form and Storage**

Antibody is shipped at room temp (powder) or cold packs and stored at -20oC upon arrival. We recommend adding anti-bacteriostatic agents such as 0.1% azide or 0.02% merthiolate if it does not interfere with the utility of the antibody. All reconstituted antibody or liquid can be stored at 4oC for 1-2 weeks in the presence of azide or stored frozen in suitable aliquots.

**Specificity**

Humanized anti-human IgE reacted strongly with the human IgE (native and myeloma derived IgE) with a sensitivity of at least 1 ng by ELISA.

**Recommended Working Dilution for ELISA**

Working dilution for the specific application should be determined by the investigator to obtain the best conditions. Working solution should be prepared immediately before use and diluted solution should be discarded.

Xolair is a trademark of Genentech/Novartis. Item # 10164-M is similar to Xolair. The product is only supplied for research use and must not be used for any therapeutic uses.

**MSDS:** This product is considered non-hazardous as defined by OSHA (CFR 1910.1200, Nov 25, 1983). It can be disposed of in the drain.

**Related Material available for ADI**

**Human IgE, IgG, IgE, and IgE ELISA kits**

Anti-human IgE, IgG, IgE, IgE antibodies and conjugates

ELISA kits for the detection of human Antibodies

ELISA kits for Xolair and anti-Xolair for human and animals.

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