

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human HB-EGF in ELISAs and Western blots. In direct ELISAs, less than 1% cross reactivity with recombinant mouse HB-EGF is observed. In sandwich immunoassays, less than 0.1% cross-reactivity with recombinant human (rh) Amphireg
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human HB-EGF (R&D Systems, Catalog # 259-HE) Asp63-Leu148 Accession # Q99075
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
Neutralization	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

HB-EGF was originally purified based on its heparin-binding property and mitogenic activity on BALB-3T3 fibroblasts from the conditioned medium of the human U-937 histiocytic lymphoma cell line. The natural protein has an apparent molecular mass of 19-23 kDa and exists in multiple forms as a result of heterogeneous O-glycosylation and/or N-terminal truncation. In addition to fibroblasts, HB-EGF is also a potent mitogen for keratinocytes and smooth muscle cells but not for capillary endothelial cells. HB-EGF is produced in monocytes and macrophages. In addition, transcription of HB-EGF can be induced in vascular endothelial cells as well as aortic smooth muscle cells (SMC), suggesting that HB-EGF may have an important role in the pathogenesis of atherosclerosis.

HB-EGF is a member of the EGF family of mitogens which also include transforming growth factor-α (TGF-α), amphiregulin (AR), rat schwannoma-derived growth factor (SDGF), vaccinia growth factor (VGF), and the various ligands for the Her2/ErbB2/neu receptor. All these cytokines are derived from transmembrane precursors that contain one or several EGF structural units in their extracellular domain. Many of these transmembrane precursors are biologically active and seem to play a role in juxtacrine stimulation of adjacent cells. The cDNA for HB-EGF encodes a 204 amino acid residue transmembrane protein that is proteolytically cleaved to generate the soluble HB-EGF. Like EGF, TGF-α, and AR; HB-EGF binds to the EGF receptor and activates the receptor tyrosine kinase. HB-EGF is reported to be a more potent SMC mitogen than EGF. It has been suggested that the differential activities found for HB-EGF compared to EGF may be mediated by the heparin-binding properties of HB-EGF. A diphtheria toxin receptor that mediates the endocytosis of the bound toxin has been cloned and found to be identical to the transmembrane HB-EGF precursor.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.