



20150720BB

# Anti-Human HB-EGF (#3R44)

**FOR RESEARCH ONLY! NOT FOR HUMAN USE!**

<b>Cat.-no.:</b>	<b>101-M447</b>
Size:	100 µg
Lot. No.:	According to product label

**Preparation:** This antibody was produced from a hybridoma (mouse myeloma fused with spleen cells from a mouse) immunized with human recombinant protein of HB-EGF

## Target Background

<b>Synonyms (Target):</b>	HBEGF; DTR; DTS; DTSF; HEGFL
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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 U937 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 heterogenous 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 $\alpha$  (TGF $\alpha$ ), 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 $\alpha$ , 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.

## Database References Target

<b>Protein RefSeq:</b>	NP_001936.1
<b>Uniprot ID:</b>	Q99075
<b>mRNA RefSeq:</b>	NM_001945

## Product Specifications

<b>Host</b>	Mouse
<b>Reactivity against</b>	Human
<b>Clonality</b>	Monoclonal Antibody
<b>Clone</b>	(#3R44)
<b>Isotype</b>	IgG2
<b>Purification</b>	Protein G chromatography
<b>Antigen</b>	recombinant human HB-EGF
<b>Formulation</b>	lyophilized
<b>Reconstitution buffer</b>	PBS (sterile)

**Reconstitution:** Reconstitute the antibody with 200 µl sterile PBS and the final concentration is 500 µg/ml.

**Stability:** Lyophilized samples are stable for 2 years from date of receipt when stored at -70°C. Reconstituted antibody can be aliquoted and stored frozen at < -20 °C for at least for six months without detectable loss of activity.

**Remarks:** This antibody was selected for its ability to detect human HB-EGF.

**AVOID REPEATED FREEZE AND THAW CYCLES!**

## Applications

The antibody can be used within the following applications:

WB, N, IHC (P)

### Recommended usage:

Western Blot: 1:500 - 1:1000

Neutralization of HB-EGF bioactivity: Yes

IHC (Paraffin):

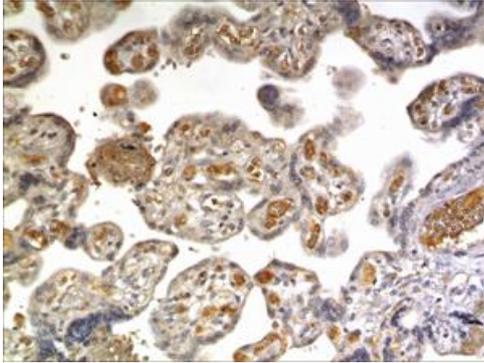
**NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!**



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### Application/Handling



**Fig. 1:** A 10% Buffer formalin fixed and paraffin embedded human placental tissue section (4um) is subjected to IHC staining using a mouse anti-human HB-EGF monoclonal antibody. Tissue section was pretreated in citric buffer (ph6.0) with microwave for antigen retrieval before IHC is applied.