

# HB-EGF (E-10): sc-74526

## BACKGROUND

Heparin binding epidermal-like growth factor (HB-EGF), a member of the EGF family of mitogens, binds to the EGF receptor (EGFR) and to heparin sulfate proteoglycans on the cell surface. HB-EGF was originally isolated from medium conditioned by the growth of the human histiocytic lymphoma cell U-937 on the basis of its heparin-binding ability and its mitogenic activity for Balb/3T3 fibroblasts. The HB-EGF gene encodes a 208 amino acid precursor containing a signal peptide and transmembrane domain. Mature HB-EGF is a soluble protein, 86 amino acids in length, and results from the enzymatic cleavage of the membrane bound precursor. The membrane-bound form of HB-EGF has been identified as the diphtheria toxin receptor. Preincubation of Vero cells with phorbol 12-myristate 13-acetate (PMA) induces the proteolytic cleavage of HB-EGF outside the membrane anchor.

## REFERENCES

1. Higashiyama, S., et al. 1991. A heparin-binding growth factor secreted by macrophage-like cells that is related to EGF. *Science* 251: 936-939.
2. Mitamura, T., et al. 1995. Diphtheria toxin binds to the epidermal growth factor (EGF)-like domain of human heparin-binding EGF-like growth factor/diphtheria toxin receptor and inhibits specifically its mitogenic activity. *J. Biol. Chem.* 270: 1015-1019.

## CHROMOSOMAL LOCATION

Genetic locus: HBEGF (human) mapping to 5q31.3.

## SOURCE

HB-EGF (E-10) is a mouse monoclonal antibody raised against amino acids 121-208 mapping at the C-terminus of mature HB-EGF of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

HB-EGF (E-10) is recommended for detection of precursor and mature HB-EGF of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

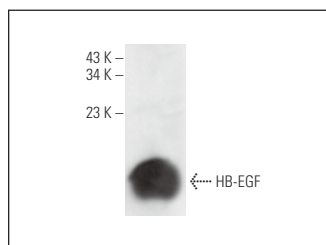
Suitable for use as control antibody for HB-EGF siRNA (h): sc-39420, HB-EGF shRNA Plasmid (h): sc-39420-SH and HB-EGF shRNA (h) Lentiviral Particles: sc-39420-V.

Molecular Weight of HB-EGF: 22 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



HB-EGF (E-10): sc-74526. Western blot analysis of human recombinant HB-EGF.

## SELECT PRODUCT CITATIONS

1. Bertram, C. and Hass, R. 2009. Cellular senescence of human mammary epithelial cells (HMEC) is associated with an altered MMP-7/HB-EGF signaling and increased formation of elastin-like structures. *Mech. Ageing Dev.* 130: 657-669.
2. Bollée, G., et al. 2011. Epidermal growth factor receptor promotes glomerular injury and renal failure in rapidly progressive crescentic glomerulonephritis. *Nat. Med.* 17: 1242-1250.
3. Flamant, M., et al. 2012. Epidermal growth factor: a new therapeutic target in glomerular disease. *Nephrol. Dial. Transplant.* 27: 1297-1304.
4. Zeng, F., et al. 2014. Deletion of ErbB4 accelerates polycystic kidney disease progression in cpk mice. *Kidney Int.* 86: 538-547.
5. Harati, R., et al. 2020. Loss of miR-101-3p promotes transmigration of metastatic breast cancer cells through the brain endothelium by inducing COX-2/MMP1 signaling. *Pharmaceuticals* 13: E144.

## RESEARCH USE

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



See **HB-EGF (G-11): sc-74441** for HB-EGF antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.