

# HB-EGF (G-11): sc-74441

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

HB-EGF (G-11) is a mouse monoclonal antibody raised against amino acids 121-208 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.

HB-EGF (G-11) is available conjugated to agarose (sc-74441 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74441 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74441 PE), fluorescein (sc-74441 FITC), Alexa Fluor® 488 (sc-74441 AF488), Alexa Fluor® 546 (sc-74441 AF546), Alexa Fluor® 594 (sc-74441 AF594) or Alexa Fluor® 647 (sc-74441 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74441 AF680) or Alexa Fluor® 790 (sc-74441 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## 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 (G-11) 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).

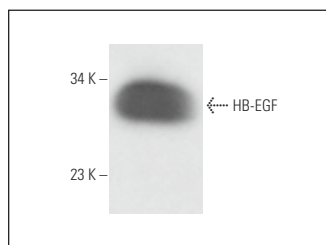
Suitable for use as control antibody for HB-EGF siRNA (h): sc-39420, HB-EGF shRNA Plasmid (h): sc-39420-SH and HB-EGF shRNA (h) Lentiviral Particles: sc-39420-V.

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 (G-11): sc-74441. Western blot analysis of human recombinant HB-EGF protein.

## SELECT PRODUCT CITATIONS

- Papagregoriou, G., et al. 2012. A miR-1207-5p binding site polymorphism abolishes regulation of HBEGF and is associated with disease severity in CFHR5 nephropathy. *PLoS ONE* 7: e31021.
- Zhao, L.H., et al. 2013. Restraint stress inhibits mouse implantation: temporal window and the involvement of HB-EGF, estrogen and progesterone. *PLoS ONE* 8: e80472.
- Nguyen Ho-Bouldoires, T.H., et al. 2015. Mitogen-activated protein kinase-activated protein kinase 2 mediates resistance to hydrogen peroxide-induced oxidative stress in human hepatobiliary cancer cells. *Free Radic. Biol. Med.* 89: 34-46.
- Shetty, P., et al. 2016. Annexin A2 and its downstream IL-6 and HB-EGF as secretory biomarkers in the differential diagnosis of Her-2 negative breast cancer. *Ann. Clin. Biochem.* 54: 463-471.
- Choi, W., et al. 2020. Pulmonary mycosis drives FOXA2 degradation and mucus hypersecretion through activation of the SYK-EGFR-AKT/ERK1/2 signaling. *Am. J. Pathol.* 191: 108-130.
- Park, S.H., et al. 2022. Particulate matter promotes cancer metastasis through increased HBEGF expression in macrophages. *Exp. Mol. Med.* 54: 1901-1912.

## RESEARCH USE

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