

EGF (hBA-53): sc-4552

BACKGROUND

Epidermal growth factor (EGF) is an acid- and heat-stable 53 amino acid protein originally found in rodents and humans. It has been shown to be a potent mitogen for a variety of cell types both *in vivo* and *in vitro*. EGF binds to the EGF receptor on the surface of cells and mediates intrinsic phosphorylation of the receptor on tyrosine residues. It has been detected in nearly all body fluids, such as urine (urogastrone), saliva, milk and platelet-rich plasma. EGF, TGF α and vaccinia virus growth factor exhibit 30-40% amino acid homology. Several additional members of the EGF/TGF family have been described; these include Cripto, Amphiregulin and the heparin-binding EGF-like growth factor. Amphiregulin and the heparin-binding EGF-like growth factor both bind to the EGF receptor.

REFERENCES

1. Cohen, S. 1962. Isolation of a mouse submaxillary gland protein accelerating incisor eruption and eyelid opening in the newborn animal. *J. Biol. Chem.* 237: 1555-1562.
2. Starkey, R.H. and Orth, D.N. 1977. Radioimmunoassay of human epidermal growth factor (urogastrone). *J. Clin. Endocrinol. Metab.* 45: 1144-1153.
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4. Stroobant, P., Rice, A.P., Gullick, W.J., Cheng, D.J., Kertz, I.M. and Waterfield, M.D. 1985. Purification and characterization of vaccinia virus growth factor. *Cell* 42: 383-393.
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CHROMOSOMAL LOCATION

Genetic locus: EGF (human) mapping to 4q25.

SOURCE

EGF (hBA-53) is produced in *E. coli* as 33 kDa biologically active, GST-tagged fusion protein corresponding to 53 amino acids of EGF of human origin.

PRODUCT

Each vial contains in 500 μ g of PeproTech: The lyophilized rHuEGF is very soluble in water and most aqueous buffers below and above the isoelectric point (pI = 4.49).

BIOLOGICAL ACTIVITY

EGF (hBA-53) is biologically active as determined by dose-dependent proliferation of murine M-NFS-60 indicator cells.

Expected ED50: 2 ng/ml.

Specific Activity: Greater than 1×10^7 units/mg.

RECONSTITUTION

In order to avoid freeze/thaw damaging of the active protein, dilute protein when first used to desired working concentration. Either a sterile filtered standard buffer (such as 50mM TRIS or 1X PBS) or water can be used for the dilution. Store any thawed aliquot in refrigeration at 2° C to 8° C for up to four weeks, and any frozen aliquot at -20° C to -80° C for up to one year. It is recommended that frozen aliquots be given an amount of standard cryopreservative (such as Ethylene Glycol or Glycerol 5-20% v/v), and refrigerated samples be given an amount of carrier protein (such as heat inactivated FBS or BSA to 0.1% v/v) or non-ionic detergent (such as Triton X-100 or Tween 20 to 0.005% v/v), to aid stability during storage.

SELECT PRODUCT CITATIONS

1. Sun, J., Zhou, C., Zhao, Y., Zhang, X., Chen, W., Zhou, Q., Hu, B., Gao, D., Raatz, L., Wang, Z., Nelson, P.J., Jiang, Y., Ren, N., Bruns, C.J. and Zhou, H. 2021. Quiescin sulfhydryl oxidase 1 promotes sorafenib-induced ferroptosis in hepatocellular carcinoma by driving EGFR endosomal trafficking and inhibiting NRF2 activation. *Redox Biol.* 41: 101942.
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3. Soreng, K., Pankiv, S., Bergsmark, C., Haugsten, E.M., Dahl, A.K., de la Ballina, L.R., Yamamoto, A., Lystad, A.H. and Simonsen, A. 2022. ALFY localizes to early endosomes and cellular protrusions to facilitate directional cell migration. *J. Cell Sci.* 135: jcs259138.

STORAGE

Store desiccated at -20° C; stable for one year from the date of shipment.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.