

EGF (mBA-53): sc-4848

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

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2. Gregory, H. 1985. *In vivo* aspects of urogastrone-epidermal growth factor. *J. Cell Sci. Suppl.* 3: 11-17.
3. 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.
4. Derynck, R. 1986. Transforming growth factor- α : structure and biological activities. *J. Cell Biochem.* 32: 293-304.
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7. Starkey, R.H. and Orth, D.N. 1987. Radioimmunoassay of human epidermal growth factor (urogastrone). *J. Clin. Endocrinol. Metab.* 45: 1144-1153.
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SOURCE

EGF (mBA-53) is produced in *E. coli* as 33 kDa biologically active, tagged fusion protein corresponding to 53 amino acids representing full length EGF of mouse origin.

PRODUCT

EGF (mBA-53) is purified from bacterial lysates (>98%); supplied as 500 μ g purified protein.

BIOLOGICAL ACTIVITY

EGF (mBA-53) is biologically active as determined by the dose-dependent stimulation of thymidine uptake by BALB/c 3T3 cells at < 0.1 ng/ml, corresponding to a specific activity of > 1 x 10⁷ 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. Onuma, H., Oeser, J.K., Nelson, B.A., Wang, Y., Flemming, B.P., Scheving, L.A., Russell, W.E. and O'Brien, R.M. 2009. Insulin and epidermal growth factor suppress basal glucose-6-phosphatase catalytic subunit gene transcription through overlapping but distinct mechanisms. *Biochem. J.* 417: 611-620.

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.