



## Product Information

### Epiregulin

Mouse, Recombinant  
Expressed in *E. coli*

Product Number **E 8780**

### Product Description

Recombinant Mouse Epiregulin is produced from a DNA sequence encoding the mature mouse epiregulin protein sequence.<sup>1</sup> The protein is expressed in *E. coli*. The 47 amino acid residue methionyl form of recombinant mouse epiregulin has a predicted molecular mass of approximately 5.5 kDa.

Epiregulin is a member of EGF (epidermal growth factor) family. All members of the EGF family are synthesized as transmembrane precursors and converted to soluble forms by proteolytic cleavage. Epiregulin was originally purified from the mouse fibroblast-derived tumor cell line NIH3T3/T7.<sup>2</sup> Mouse epiregulin cDNA encodes a transmembrane precursor of 162 amino acids with a mature soluble form consisting of residues 56-101.<sup>1</sup>

Epiregulin acts similar to other EGF family members by binding to and activating the tyrosine kinase ErbB family receptors (ErbB1-ErbB4).<sup>3</sup> Epiregulin has a broad specificity, but this ligand seems to preferentially activate heterodimeric receptor complexes.<sup>4</sup> Epiregulin inhibits the growth of several epithelial tumor cells and stimulates the growth of fibroblasts and other types of cells.<sup>2</sup> Its expression is upregulated in a number of carcinoma cell lines. Epiregulin is also an autocrine growth factor in human epidermal keratinocytes,<sup>5</sup> and involved in the early stages of pregnancy, regulating the attachment of the blastocyst to the uterine epithelium during the implantation process.<sup>6</sup>

### Reagent

Recombinant Mouse Epiregulin is supplied as approximately 50 µg of protein lyophilized from a 0.2 µm filtered solution in phosphate buffered saline containing 2.5 mg bovine serum albumin.

### Storage/Stability

Store at -20 °C. Upon reconstitution, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

### Preparation Instructions

Reconstitute the contents of the vial using 0.2 µm filtered phosphate buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of at least 10 µg/ml.

### Product Profile

Recombinant Mouse Epiregulin is measured by its ability to stimulate the <sup>3</sup>H-thymidine incorporation in a mouse fibroblast cell line, Balb/3T3.

Endotoxin: < 1.0 EU (endotoxin units)/µg protein as determined by the LAL (Limulus ameocyte lysate) method.

### References

1. Toyoda, H., et al, FEBS Lett., **377**, 403-407 (1995).
2. Toyoda, H., et al., J. Biol. Chem., **270**, 7495-7500 (1995).
3. Komurasaki, T., et al., Oncogene, **15**, 2841-2848 (1997).
4. Shelly, M., et al., J. Biol. Chem., **273**, 10496-1050 (1998).
5. Shirakata, Y., et al., J. Biol. Chem., **275**, 5748-5753 (2000).
6. Das, S.K., et al., Dev. Biol., **190**, 178-190 (1997).

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