

Datasheet for ABIN2666550

Epigen Protein (AA 54-104)

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Overview

Quantity:	25 µg
Target:	Epigen (EPGN)
Protein Characteristics:	AA 54-104
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	Flow Cytometry (FACS), Immunofluorescence (IF)

Product Details

Purity:	> 95 % , as determined by Coomassie stained SDS-PAGE.
Sterility:	0.22 µm filtered
Endotoxin Level:	Less than 0.01 ng per µg cytokine as determined by the LAL method.

Target Details

Target:	Epigen (EPGN)
Alternative Name:	Epigen (EPGN Products)
Background:	Epigen was initially identified in mice by high throughput sequencing of a mouse keratinocyte library. It belongs to the EGF family of proteins that includes EGF, TGF-α, heparin-binding EGF like-growth factor (HB-EGF), amphiregulin, epiregulin, and betacellulin. Epigen shows 24-37 % identity to other members of the EGF superfamily. Alignment of the EGF-like motifs of all

Target Details

human ErbB ligands indicate that epigen is more similar to epiregulin than other members of the family. In addition, epigen and epiregulin co-localize to the same genomic locus. All the EGF family members are synthesized as type I membrane protein precursors, which are able to undergo proteolytic cleavage at the plasma membrane to release a mature soluble ectodomain. In addition to amphiregulin, TNF- α , and HB-EGF, ADAM 17 (TACE) has an important role in ectodomain shedding of epigen. This cleavage is a key step in the control of ligand availability and receptor activation and is stimulated by phorbol esters, phosphatase inhibitors, and calcium influx. The four cell surface receptors specific for EGF-ligands are members of the ErbB family of tyrosine kinase receptors. These include the epidermal growth factor (EGF) receptor (EGFR/ErbB1), ErbB2/HER2/Neu, ErbB3/HER3, and ErbB4/HER4. Epigen induces proliferation of cells engineered to express EGFR, either alone or in combination with ErbB2. HER2 does not bind to any ligand, but it can form relatively potent receptor heterodimers. Epigen is expressed in epithelial cells of invasive breast, prostate adenocarcinomas, and in head and neck squamous cell carcinoma (HNSCC) cell lines. It is overexpressed in bladder and breast cancer cells.

Molecular Weight: The 52 amino acid recombinant protein has a predicted molecular mass of approximately 5.9 kDa. The DTT-reduced and non-reduced protein migrate at approximately 8 kDa by SDS-PAGE. The predicted N-terminal amino acid is Met.

Pathways: [RTK Signaling, EGFR Signaling Pathway](#)

Application Details

Application Notes: Optimal working dilution should be determined by the investigator.

Comment: Biological activity: ED50 = 1 - 5 μ g/ml, as determined by induction of mammary gland epithelial MCF-10A cell proliferation.

Restrictions: For Research Use only

Handling

Format: Liquid

Reconstitution: For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20 °C to -70 °C. Stock solutions can also be prepared at 50 - 100 μ g/mL in sterile buffer (PBS, HPBS, DPBS, or EBSS) containing carrier protein such as 0.2 - 1 % BSA or HSA and stored in working aliquots at -20 °C to -70 °C.

Buffer: 0.22 μ m filtered protein solution is in 5 mM citric acid, 5 mM NaHPO₄, 0.15 M NaCl, pH 4.0.

Handling

Handling Advice:	Avoid repeated freeze/thaw cycles.
Storage:	-20 °C
Storage Comment:	Unopened vial can be stored between 2°C and 8°C for one month, at -20°C for six months, or at -70°C for one year.