

## Epigen, Human

**Cat. No.:** Z03173-1

**Size:** 1.0 mg

**Synonyms:** EPG, Epithelial mitogen

### Description:

Epigen is a cytokine belonging to the Epidermal Growth Factor (EGF) superfamily, which also includes Epiregulin, Amphiregulin, Neuregulin 2- $\beta$ , and Transforming Growth Factor  $\alpha$ . The precursor of Epigen produced in tissues has 154 amino acids, and shares the characteristics of other members of EGF superfamily, including 3 disulfide bonds formed by 6 cysteines. Epigen is present in testis, heart, and liver, and it binds to EGF receptors with a much lower binding affinity than EGF. However, Epigen is more mitogenic than EGF. Epigen achieves its strong mitogenic potency by suppressing ligand-induced receptor inactivation. Unlike EGF, Epigen can also bind to EGF receptors in low pH conditions, helping its recycling. Therefore Epigen has anomalous potency due to its prolonged presence.

Recombinant human Epigen (rhEpigen) produced in *E. coli* is a single non-glycosylated polypeptide chain containing 73 amino acids. A fully biologically active molecule, rhEpigen has a molecular mass of 8.1 kDa analyzed by reducing SDS-PAGE and is obtained by proprietary chromatographic techniques at GenScript.

### Amino Acid Sequence:

00001 MAVTVTPPIT AQQADNIEGP IALKFSHLCL EDHNSYCIING  
00041 ACAFHHELEK AICRCFTGYT GERCEHLTLT SYA

**Source:** *E. coli*

**Species:** Human

**Biological Activity:** ED<sub>50</sub> < 1  $\mu$ g/mL, measured by a cell proliferation assay using 3T3 cells, corresponding to a specific activity of > 1  $\times$  10<sup>3</sup> units/mg.

**Molecular Weight:** 8.1 kDa, observed by reducing SDS-PAGE.

**Formulation:** Lyophilized after extensive dialysis against PBS.

**Reconstitution:** Reconstituted in ddH<sub>2</sub>O at 100  $\mu$ g/mL.

**Purity:** > 95% by SDS-PAGE analysis.

**Endotoxin Level:** < 0.2 EU/ $\mu$ g, determined by LAL method.

**Storage:** Lyophilized recombinant human Epigen (rhEpigen) remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, rhEpigen remains stable up to 2 weeks at 4°C or up to 3 months at -20°C.