Miltenyi Biotec

Human FGF-7
research grade

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1. Description

Products

Human FGF-7, research grade.

Recombinant human fibroblast growth factor 7.

Content in µg	Order no.
10	130-093-849
25	130-097-175

Biological activity

The ED_{50} is ≤10 ng/mL corresponding to an activity of ≥1×10^5 U/mg.

▲ **Note:** The ED_{50} is determined by proliferation assay using 4MBr-5 rhesus monkey epithelial cells[1]. The proliferation assay was calibrated with the reference standard for human FGF-7/KGF (NIBSC code 03/150) provided by the WHO/ National Institute for Biological Standards and Control.

Primary structure

Single, non-glycosylated polypeptide chain (163 amino acid residues).

Molecular mass

18.9 kDa.

Source

Produced in *E. coli*.

Product format

Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer

Mannitol and trehalose.

Purity

>95% as determined by SDS-PAGE analysis.

Endotoxin level

Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage

Lyophilized Human FGF-7, research grade should be stored at –20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at –20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution

It is recommended to reconstitute lyophilized Human FGF-7, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.

1.1 Background information

Fibroblast growth factor 7 (FGF-7), also termed keratinocyte growth factor (KGF), is a member of the FGF family. FGFs are involved in embryonic development, angiogenesis, wound healing, and tumorigenesis. FGF-7 acts specifically on various types of epithelial cells including keratinocytes of the skin, intestinal epithelial cells, and hepatocytes. It is involved in the repair of injured skin and mucosal tissues by stimulating the proliferation, migration, and differentiation of epithelial cells. Furthermore, FGF-7 can protect epithelial cells from damaging effects. FGF-7 shows high structural homology and similar biological characteristics with FGF-10. Both factors are predominantly synthesized by mesenchymal cells. Human FGF-7 shows species cross-reactivity and is active among others on mouse cells.

1.2 Applications

Human FGF-7 can be used for a variety of applications including:

- Induction of proliferation and differentiation of epithelial cells.
- Stimulation of proliferation of keratinocytes.
- ES/iPS cell culture.

Optimal concentration for a specific application should be determined by a dose-response experiment.

2. References

1. Rubin, J.S. *et al.* (1989) Purification and characterization of a newly identified growth factor specific for epithelial cells. Proc. Natl. Acad. Sci. U.S.A. 86: 802–806.

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140-002-404.05

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