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1. Description

Components	Human FGF-2, research grade: Purified recombinant human fibroblast growth factor 2.
Sizes	10 µg, 50 µg.
Biological activity	The ED ₅₀ is ≤2.0 ng/mL* corresponding to a specific activity of ≥5×10 ⁵ I.U./mg.
Primary structure	Single, non-glycosylated polypeptide.
Molecular mass	17 kDa.
Source	Produced in <i>E. coli</i> .
Product format	Lyophilized from a 0.2 µm filtered buffer solution.
Stabilizer	None.
Purity	>97% 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-2, 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. Avoid repeated freeze-thaw cycles.
Reconstitution	It is recommended to reconstitute lyophilized Human FGF-2 with deionized sterile-filtered water to a final concentration of not less than 100 µg/mL. ▲ Note: Addition of carrier protein, such as 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) may have stabilizing effects. Further dilutions should be prepared with 1% BSA or HSA in phosphate-buffered saline (PBS).

* The ED₅₀ is determined by proliferation assay using 3T3 cells according to Robinson and Gaines-Das.¹ The proliferation assay was calibrated with the international standard for human FGF-2 (NIBSC code 90/712) provided by the WHO/National Institute for Biological Standards and Control.

1.1 Background information

Fibroblast growth factor 2 (FGF-2 or FGF2), also termed fibroblast growth factor basic (FGF-b) or basic FGF (bFGF), belongs to the family of heparin-binding growth factors. It functions as a wide-spectrum mitogenic, angiogenic, and neurotrophic factor and stimulates the proliferation of a wide variety of cells including mesenchymal, neuroectodermal, and endothelial cells. FGF-2 has been implicated in a multitude of physiological and pathological processes, including limb development, angiogenesis, wound healing, and tumor growth.

1.2 Applications

- Human FGF-2 can be used as a cell culture supplement to optimize the culture conditions for a broad variety of cell types, such as marrow stromal cells (MSCs), neural cells, and endothelial cells.

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

2. Reference

1. Robinson, C. J. and Gaines-Das, R. (1994) The international standard for basic fibroblast growth factor (FGF-2); comparison of candidate preparations by in vitro bioassays and immunoassays. *Growth Factors* 11: 9–16.

All protocols and data sheets are available at www.miltenyibiotec.com.

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