

Recombinant Human Fibroblast Growth Factor 12

#R00111

Size: 10 µg/100 µg/500 µg

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.

- 1 month, 2 to 8 °C under sterile conditions after reconstitution.

- 3 months, -20 to -70 °C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

Fibroblast growth factor-12 is a member of the FGF superfamily of molecules contains at least 22 members. Human FGF-12 is synthesized as a 243 aa protein. It lacks a typical signal sequence and is considered to be a cytoplasmic protein. It does, however, possess an N-terminal bipartite nuclear localization signal (NLS) at aa 11 - 18 and 28 - 38. The 243 aa protein has at least one alternate splice form that is 181 aa in length. This is termed FGF-12B. Alternate splicing deletes the N-terminal 66 aa in FGF-12 and replaces them with four aa in FGF-12B. This substitution removes the NLS from the short form. Studies on the short form (12B) show that it cannot bind any of the common FGF receptors. This is consistent with its cytoplasmic localization. It can, however, bind to IB2 (islet brain-2), a cellular kinase scaffold protein, and voltage-gated sodium channels, suggesting FGF-12B plays an important role in intracellular signaling and ion exchange. Mouse and

human FGF-12B differ by only one amino acid.

AA Sequence

MESKEPQLKGIVTRLFSQQGYFLQMHPDGTIDGTKD
ENSDYTLFNLIPVGLRVVAIQGVKASLYVAMNGEGYLY
SSDVFTPECKFKESVFENYYVIYSSTLYRQQESGRA
WFLGLNKEGQIMKGNRVKKTKPSSHFVPKPIEVCMY
REQSLHEIGEKQGRSRKSSGTPTMNGGKVVNQDST

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at ≤ -20°C. Further dilutions should be made in appropriate buffered solutions.

Product Specification

Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 20.5 kDa, a single non-glycosylated polypeptide chain containing 181 amino acids.
Purity	> 98 % by SDS-PAGE and HPLC analyses.
Biological Activity	The biological activity was determined by its binding ability in a functional ELISA. Immobilized rHuFGF R4/Fc Chimera at 5 µg/mL (100 µL/well) can bind rHuFGF-12 with a linear range of 1.6-100 ng/mL.
Physical Appearance	Sterile Filtered White Lyophilized (freeze-dried) powder.

Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH7.4, with 1 mM DTT.
Endotoxin	Less than 0.1 EU/μg of rHuFGF-12 as determined by LAL method.