Recombinant Mouse FGF basic

Catalog Number: 3139-FB

DESCRIPTION

Source	*E. coli*-derived Ala11-Ser154 Accession # P15655
N-terminal Sequence Analysis	Ala11
Predicted Molecular Mass	16.2 kDa

SPECIFICATIONS

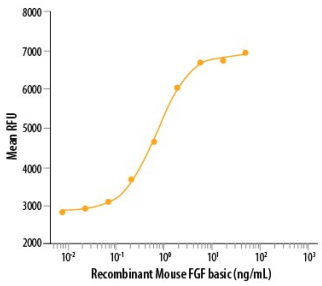
Activity	Measured in a cell proliferation assay using NR6R-3T3 mouse fibroblast cells. Raines, E.W. *et al.* (1985) Methods Enzymol. **109**:749. The ED_{50} for this effect is 0.3-1.8 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in MOPS, Na_2SO_4, EDTA and DTT with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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.

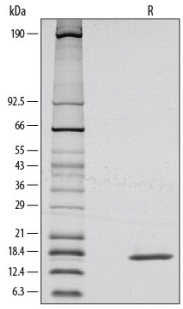
DATA

Bioactivity



Recombinant Mouse FGF basic (Catalog # 3139-FB) stimulates cell proliferation of the NR6R-3T3 mouse fibroblast cell line. The ED_{50} for this effect is 0.3-1.8 ng/mL.

SDS-PAGE



1 µg/lane of Recombinant Mouse FGF basic was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 18 kDa.

BACKGROUND

FGF basic (FGF-2, HBGF-2) is one of at least 22 mitogenic proteins of the FGF family, which show 35-60% amino acid conservation (1-3). Unlike other FGFs, FGF acidic and basic lack signal peptides and are secreted by an alternate pathway. Storage pools within the cell or on cell surface heparan sulfate proteoglycans (HSPG) are likely. The predicted 17 kDa FGF basic isoform can be located in both the cytoplasm and the nucleus and is presumed to be the form secreted (4). Transcription from alternate start sites produces 21-24 kDa forms found only in the nucleus. High and low molecular weight human FGF basic targets the expression of different genes when expressed in NIH-3T3 cells (5). The 17 kDa mouse sequence has 98% aa identity with rat, and 95% identity with human, bovine and sheep FGF basic (6, 7). Autocrine, intracrine and paracrine actions of FGF basic have been identified. Binding of FGF to heparin or cell surface HSPG is necessary for binding, dimerization and activation of tyrosine kinase FGF receptors. FGF basic binds other proteins, polysaccharides and lipids with lower affinity (3). Expression of FGF basic is nearly ubiquitous but disruption of the mouse FGF basic gene gives a relatively mild phenotype, suggesting compensation by other FGF family members. FGF basic modulates such normal processes as angiogenesis, wound healing and tissue repair, embryonic development and differentiation, neuronal function and neural degeneration. Transgenic overexpression of FGF basic results in excessive proliferation and angiogenesis reminiscent of a variety of pathological conditions (1-3).

References:

1. Coulier, F. *et al.* (1997) J. Mol. Evol. **44**:43.
2. Fernig, D. *et al.* (1994) Prog. Growth Factor Res. **5**:353.
3. Presta, M. *et al.* (2005) Cytokine. Growth Factor Rev. **16**:159.
4. Claus, P. *et al.* (2003) J. Biol. Chem. **278**:479.
5. Quarto, N. *et al.* (2005) Gene **356**:49.
6. Tsuneto, M. *et al.* (2005) Biochem. Biophys. Res. Comm. **335**:1239.
7. Hebert, J. M. *et al.* (1990) Dev. Biol. **138**:454.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449