Recombinant Human/Mouse FGF-8 b Isoform

Catalog Number: 423-F8

DESCRIPTION

Source	*E. coli*-derived Gln23-Arg215, with an N-terminal Met Accession # NP_006110 (human), NP_001159834 (mouse)
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	22.5 kDa

SPECIFICATIONS

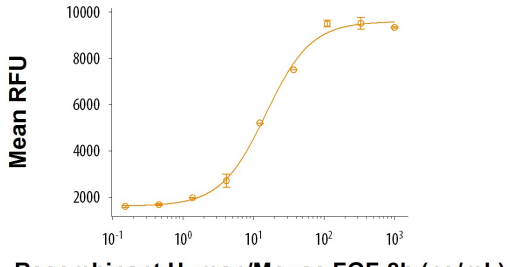
SDS-PAGE	23 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using NR6R-3T3 mouse fibroblast cells. Raines, E.W. *et al.* (1985) Methods Enzymol. **109**:749. The ED_{50} for this effect is typically 6.5-40 ng/mL in the presence of 1 µg/mL heparin.
Endotoxin Level	<0.01 EU per 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 and Brij-35 with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 25 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. ● 3 months, 2 to 8 °C under sterile conditions after reconstitution.

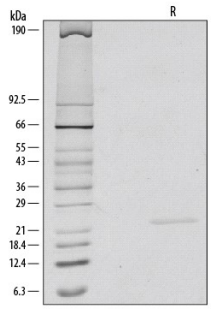
DATA

Bioactivity



Recombinant Human/Mouse FGF-8b (Catalog #423-F8) stimulates cell proliferation in the NR6R-3T3 mouse fibroblast cell line. The ED_{50} for this effect is 6.5-40 ng/mL in the presence of 1 µg/mL heparin.

SDS-PAGE



1 µg/lane of Recombinant Human/Mouse FGF-8b was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 23 kDa.

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BACKGROUND

FGF-8 is a member of the fibroblast growth factor family that was originally discovered as a growth factor essential for the androgen-dependent growth of mouse mammary carcinoma cells (1-3). Alternate splicing of mouse FGF-8 mRNA generates eight secreted isoforms, designated a-h, but only FGF-8a, b, e and f exist in humans (4). FGF-8 contains a 22 amino acid (aa) signal sequence, an N-terminal domain that varies according to the isoform (30 aa for FGF-8b; 20 aa for the shortest, FGF-8a), a 125 aa FGF domain and a 37 aa proline-rich C-terminal sequence. The FGF domain of FGF-8 shares the most aa identity with FGF17 (75%) and FGF-18 (67%), and the three form an FGF subfamily (2). Mouse FGF-8b shares 100% aa identity with human FGF-8b. FGF-8 is widely expressed during embryogenesis, and mediates epithelial-mesenchymal transitions. It plays an organizing and inducing role during gastrulation, and regulates patterning of the midbrain/hindbrain, eye, ear, limbs and heart in the embryo (2, 5 - 8). The isoforms may play different roles in development. FGF-8b shows the strongest receptor affinity and oncogenic transforming capacity although FGF-8a and FGF-8e are also transforming and have been found in human prostate, breast or ovarian tumors (1, 5, 9-12). FGF-8 shows limited expression in the normal adult, but low levels are found in the reproductive and genitourinary tract, peripheral leukocytes and bone marrow hematopoietic cells (3, 9, 13).

References:

1. Mattila, M.M. and P.L. Harkonen (2007) Cytokine Growth Factor Rev. **18**:257.
2. Reuss, B. and O. von Bohlen und Halbach (2003) Cell Tiss. Res. **313**:139.
3. Tanaka, A. *et al.* (1992) Proc. Natl. Acad. Sci. USA **89**:8928.
4. Gemel, J. *et al.* (1996) Genomics **35**:253.
5. Olsen, S.K. *et al.* (2006) Genes Dev. **20**:185.
6. Crossley, P.H. *et al.* (1996) Cell, **84**:127.
7. Heikinheimo, M. *et al.* (1994) Mech. Dev. **48**:129.
8. Sun, X. *et al.* (1999) Genes Dev. **13**:1834.
9. Ghosh, A.K. *et al.* (1996) Cell Growth Differ. **7**:1425.
10. Mattila, M.M. *et al.* (2001) Oncogene **20**:2791.
11. Valve, E. *et al.* (2000) Int. J. Cancer **88**:718.
12. Valve, E.M. *et al.* (2001) Lab. Invest. **81**:815.
13. Nezu, M. *et al.* (2005) Biochem. Biophys. Res. Commun. **335**:843.

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