

Store at
-20°C

#61977

Human Basic Fibroblast Growth Factor (hFGF basic/FGF2)



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New 11/17

For Research Use Only. Not For Use In Diagnostic Procedures.

| Molecular Wt. | Source | Purity |
|---------------|---|--------|
| 17 kDa | Human Recombinant Protein expressed in <i>E. coli</i> | > 95% |

Background: FGF basic (FGF2) is produced by epithelial, tumor and other cell types (1). FGF basic is involved in developmental processes and regulates differentiation, proliferation, and migration (1-6). FGF basic is a critical factor for growing embryonic stem cells in culture without inducing differentiation. FGF basic has a high affinity for heparan sulfate (1,2) and FGF-heparan sulfate binding is a step in the activation of FGFR tyrosine kinase. There are four distinct FGF receptors and each has multiple splice variants. FGF basic binds with high affinity to many, but not all, FGFRs. Signaling cascades activated through FGF basic binding to FGFR include the ras-raf-MAPK, PLC/PKC, and PI3K/AKT pathways (1).

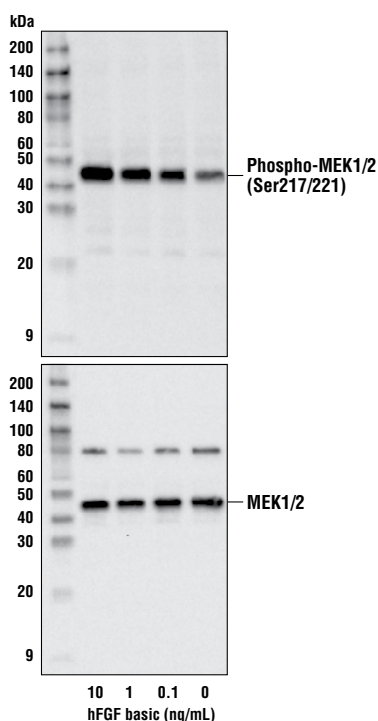
Background References:

- (1) Dvorak, P. and Hampl, A. (2005) *Folia Histochem Cytobiol* 43, 203-8.
- (2) Ornitz, D.M. and Itoh, N. (2001) *Genome Biol* 2, REVIEWS3005.
- (3) Shi, Y. et al. (2008) *Crit Rev Oncol Hematol* 65, 43-53.
- (4) Fontijn, D. et al. (2006) *Br J Cancer* 94, 1627-36.
- (5) Marek, L. et al. (2009) *Mol Pharmacol* 75, 196-207.
- (6) Acevedo, V.D. et al. (2009) *Cell Cycle* 8, 580-8.

Source/Purification: Recombinant human FGF basic was expressed in *E. coli* and is supplied in a lyophilized form. A greater than 95% purity was determined by SDS-PAGE. Endotoxin levels are less than or equal to 1 EU / 1 µg hFGF basic.

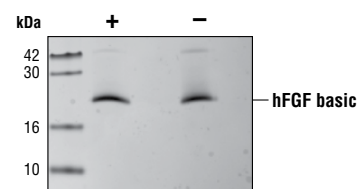
Directions For Use: Working concentration of hFGF basic generally ranges from 0.1-10 ng/ml.

Activity: The bioactivity of recombinant hFGF basic was determined in a NIH/3T3 cell proliferation assay. The ED₅₀ of each lot is between 0.05 - 1.0 ng/ml.

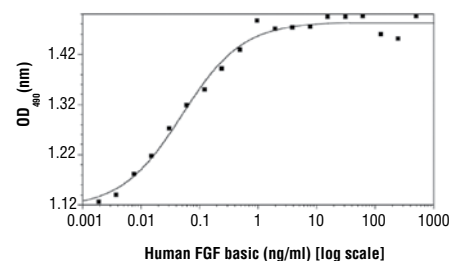


Western blot analysis of extracts from NIH/3T3 cells, untreated or treated with Human Basic Fibroblast Growth Factor for 20 minutes, using Phospho-MEK1/2 (Ser217/221) (41G9) Rabbit mAb #9154 (upper) and MEK1/2 (47E6) Rabbit mAb #9126 (lower).

Storage: Recombinant human FGF basic is supplied as lyophilized material that is very stable at -20°C. It is recommended to reconstitute with sterile water at a concentration of 0.1 mg/ml which can be further diluted in aqueous solutions as needed. Addition of a carrier protein (0.1% HSA or BSA) is recommended for long term storage.



The purity of recombinant hFGF basic was determined by SDS-PAGE of 1.5 µg reduced (+) and non-reduced (-) recombinant hFGF basic and staining overnight with Coomassie Blue.



Serial dilutions of Human FGF basic (hFGF basic/FGF2), starting at 500 ng/mL, were added to NIH/3T3 cells. Cell proliferation was assessed after 48 hours by measuring OD₄₉₀.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.