

Datasheet: PHP105

BATCH NUMBER 163903

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|----------------------|-----------------------------|
| Description: | RECOMBINANT HUMAN FGF BASIC |
| Name: | FGF BASIC |
| Other names: | FGF2 |
| Format: | Rec. Protein |
| Product Type: | Recombinant Protein |
| Quantity: | 50 µg |

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

| | Yes | No | Not Determined | Suggested Dilution |
|-------------------|-----|----|----------------|--------------------|
| ELISA | ▪ | | | 0.2 - 0.4 ng/well |
| Western Blotting | ▪ | | | 1.5 - 3.0 ng/lane |
| Functional Assays | ▪ | | | 0.1 - 10 ng/ml |

Where this protein has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the protein for use in their own system using appropriate negative/positive controls.

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|---------------------------------|--|
| Target Species | Human |
| Product Form | Purified recombinant protein expressed in <i>E. coli</i> - lyophilized |
| Reconstitution | Reconstitute with 0.5 ml Tris (5mM, pH7.6). Care should be taken during reconstitution as the protein may appear as a film at the bottom of the vial. Bio-Rad recommend that the vial is gently mixed after reconstitution. Further dilutions may be prepared in a buffer containing a carrier protein (eg 0.1% BSA). |
| Buffer Solution | TRIS buffered saline. |
| Preservative Stabilisers | None present |
| Carrier Free | Yes |
| Endotoxin Level | < 0.1 ng/ug |

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| Approx. Protein Concentrations | Total protein concentration 0.1 mg/ml after reconstitution. |
| External Database Links | <p>UniProt: P09038 Related reagents</p> <p>Entrez Gene: 2247 FGF2 Related reagents</p> |
| Synonyms | FGFB |
| Product Information | <p>Recombinant Human FGF basic represents the C-terminal portion of human fibroblast growth factor 2 (A¹³⁵ - S²⁸⁸).</p> <p>Fibroblast growth factor basic (FGF basic), also known as FGF 2, is a heparin binding growth factor which has stimulatory activity on a range of cells of mesenchymal, neuroectodermal and endothelial origin. Note: FGF basic is sensitive to acidic conditions.</p> |
| Protein Molecular Weight | 17.2 kD (154 amino acid sequence) |
| Activity | 2 x 10 ⁶ units/mg |
| Purity | >95% by SDS PAGE and HPLC analysis |
| ELISA | This product may be used as a standard for ELISA applications with either AHP1038 or AHP1038B . |
| Western Blotting | This product may be used as the positive control for Western Blot applications with either AHP1038 or AHP1038B . |
| References | <ol style="list-style-type: none"> 1. Svendsen, C.N. <i>et al.</i> (1997) Long-term survival of human central nervous system progenitor cells transplanted into a rat model of Parkinson's disease. Exp Neurol. 148: 135-46. 2. Kim, T.H. <i>et al.</i> (2005) Recombinant human prothrombin kringle-2 induces bovine capillary endothelial cell cycle arrest at G0-G1 phase through inhibition of cyclin D1/CDK4 complex: modulation of reactive oxygen species generation and up-regulation of cyclin-dependent kinase inhibitors. Angiogenesis. 8: 307-14. 3. van Beuningen, HM <i>et al.</i> (2014) Inhibition of TAK1 and/or JAK can rescue impaired chondrogenic differentiation of human mesenchymal stem cells in osteoarthritis-like conditions. Tissue Eng Part A. 20 (15-16): 2243-52. 4. Pleumeekers, M.M. <i>et al.</i> (2014) The <i>in vitro</i> and <i>in vivo</i> capacity of culture-expanded human cells from several sources encapsulated in alginate to form cartilage. Eur Cell Mater. 27: 264-80. 5. Willems, N. <i>et al.</i> (2015) Intradiscal application of rhBMP-7 does not induce regeneration in a canine model of spontaneous intervertebral disc degeneration. Arthritis |

[Res Ther. 17: 137.](#)

6. Pleumeekers, M.M. *et al.* (2015) Cartilage regeneration in the head and neck area: Combination of ear or nasal chondrocytes and mesenchymal stem cells improves cartilage production: Cell combinations for cartilage production. [Plast Reconstr Surg. Aug 10. \[Epub ahead of print\]](#)
7. Dimitrellos, V. *et al.* (2003) Capillary electrophoresis and enzyme solid phase assay for examining the purity of a synthetic heparin proteoglycan-like conjugate and identifying binding to basic fibroblast growth factor. [Biomed Chromatogr. 17 \(1\): 42-7.](#)
8. Narcisi R *et al.* (2015) Long-term expansion, enhanced chondrogenic potential, and suppression of endochondral ossification of adult human MSCs via WNT signaling modulation. [Stem Cell Reports. 4 \(3\): 459-72.](#)
9. Lolli, A. *et al.* (2016) Silencing of Antichondrogenic MicroRNA-221 in Human Mesenchymal Stem Cells Promotes Cartilage Repair *In Vivo.* [Stem Cells. 34 \(7\): 1801-11.](#)
10. de Kroon, L. M. G. *et al.* (2016) Activin and Nodal Are Not Suitable Alternatives to TGF for Chondrogenic Differentiation of Mesenchymal Stem Cells [Cartilage. Sep 7 \[Epub ahead of print\]](#)
11. Cleary, M.A. *et al.* (2016) Expression of CD105 on expanded mesenchymal stem cells does not predict their chondrogenic potential. [Osteoarthritis Cartilage. 24 \(5\): 868-72.](#)
12. Grotenhuis, N. *et al.* (2016) Biomaterials Influence Macrophage-Mesenchymal Stem Cell Interaction *In Vitro.* [Tissue Eng Part A. 22 \(17-18\): 1098-107.](#)
13. Rodrigues, A.I. *et al.* (2017) Calcium phosphates and silicon: exploring methods of incorporation. [Biomater Res. 21: 6.](#)
14. Le, B.Q. *et al.* (2015) High-Throughput Screening Assay for the Identification of Compounds Enhancing Collagenous Extracellular Matrix Production by ATDC5 Cells. [Tissue Eng Part C Methods. 21 \(7\): 726-36.](#)
15. Le, B.Q. *et al.* (2017) An Approach to In Vitro Manufacturing of Hypertrophic Cartilage Matrix for Bone Repair. [Bioengineering \(Basel\). 4 \(2\)Apr 20 \[Epub ahead of print\].](#)
16. Bach, F.C. *et al.* (2017) Link-N: The missing link towards intervertebral disc repair is species-specific. [PLoS One. 12 \(11\): e0187831.](#)
17. Pleumeekers, M.M. *et al.* (2018) Trophic effects of adipose-tissue-derived and bone-marrow-derived mesenchymal stem cells enhance cartilage generation by chondrocytes in co-culture. [PLoS One. 13 \(2\): e0190744.](#)
18. Narcisi, R. *et al.* (2021) Expansion and Chondrogenic Differentiation of Human Bone Marrow-Derived Mesenchymal Stromal Cells. [Methods Mol Biol. 2221: 15-28.](#)
19. Tellegen, A. *et al.* (2021) Intra-Articular Slow-Release Triamcinolone Acetonide from Polyesteramide Microspheres as a Treatment for Osteoarthritis [Pharmaceutics. 13 \(3\): 372.](#)
20. Bach, F.C. *et al.* (2019) Hedgehog proteins and parathyroid hormone-related protein are involved in intervertebral disc maturation, degeneration, and calcification. [JOR Spine. 2 \(4\): e1071.](#)
21. Lolli, A. *et al.* (2019) Hydrogel-based delivery of anti-miR-221 enhances cartilage regeneration by endogenous cells. [J Control Release. 309: 220-30.](#)
22. Vainieri, M.L. *et al.* (2020) Evaluation of biomimetic hyaluronic-based hydrogels with enhanced endogenous cell recruitment and cartilage matrix formation. [Acta Biomater. 101: 293-303.](#)
23. Khatib, S. *et al.* (2020) MSC encapsulation in alginate microcapsules prolongs survival after intra-articular injection, a longitudinal in vivo cell and bead integrity tracking

study. [Cell Biol Toxicol. 36 \(6\): 553-570.](#)

24. Teunissen, M. *et al.* (2021) The lower *in vitro*. chondrogenic potential of canine adipose tissue-derived mesenchymal stromal cells (MSC) compared to bone marrow-derived MSC is not improved by BMP-2 or BMP-6. [Vet J. 269: 105605.](#)

25. Sivasubramanian, K. *et al.* (2019) Cell-surface markers identify tissue resident multipotential stem/stromal cell subsets in synovial intimal and sub-intimal compartments with distinct chondrogenic properties. [Osteoarthritis Cartilage. 27 \(12\): 1831-1840.](#)

Storage

Prior to reconstitution store at -20°C. Following reconstitution store at -20°C.

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the protein. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee

Guaranteed for 3 months from the date of reconstitution or until the date of expiry, whichever comes first. Please see label for expiry date.

Health And Safety Information

Material Safety Datasheet documentation #10308 available at: <https://www.bio-rad-antibodies.com/SDS/PHP10510308>

Regulatory

For research purposes only

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