Cytokines

Human Recombinant BMP-2

Bone morphogenetic protein 2

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>78004</td>
<td>50 μg</td>
</tr>
<tr>
<td>78004.1</td>
<td>100 μg</td>
</tr>
<tr>
<td>78004.2</td>
<td>1000 μg</td>
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</tbody>
</table>

Product Description

Bone morphogenetic protein 2 (BMP-2) is a member of the transforming growth factor beta (TGF-β) superfamily. BMP-2 is a disulfide-linked homodimer, acts as a ligand for complexes of type I and II BMP receptors, and primarily activates SMAD1/5/8 signaling (Nohe et al.). BMP-2 is a potent differentiation factor and directs human pluripotent stem cells (hPSCs) towards various cell types including extra-embryonic endoderm, mesenchymal cells, and chondrocytes (Pera et al.). Although BMP-2 expression is low in healthy cartilage, its expression is upregulated at the site of cartilage damage (Blaney Davidson et al.). BMP-2 induces bone and cartilage formation in vitro and is able to induce chondrogenesis in human mesenchymal stem cells (Schmitt et al.).

Product Information

Alternative Names: BDA2, BMP-2A, BMP2, Bone morphogenetic protein 2A
Accession Number: P12643
Amino Acid Sequence: MQAKHKQRKR LKSSCKRHL PLYDFSVDGWN DWIVAPPGYH AFYCHGECPF PLADHLNSTN HAIIVQTLVNS VNSKIPKACC VPTELSAISM LYLDENEKVV LKNYQDMVVE GCGCR
Predicted Molecular Mass: 26 kDa
Species: Human
Cross Reactivity: Mouse, Rat, Monkey
Formulation: Lyophilized after dialysis against acetic acid.
Source: E. coli

Specifications

Activity: The specific activity is ≥ 5 x 10^3 units/mg (EC50 ≤ 0.2 μg/mL) as determined by the alkaline phosphatase activity induced in ATDC-5 cells.
Purity: ≥ 95%
Endotoxin Level: Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/μg protein.

Preparation and Storage

Storage: Store at -80°C.
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile 20 mM acetic acid or 5 mM hydrochloric acid to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at 2 - 8°C for more than 1 month or at -20°C for more than 3 months. Avoid repeated freeze-thaw cycles.
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Data

(A) The biological activity of Human Recombinant BMP-2 was tested by its ability to promote alkaline phosphatase production of ATDC-5 cells. Alkaline phosphatase production was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which alkaline phosphatase production is at 50% of maximum. The EC50 in the above example is 0.09 μg/mL.

(B) 2 μg of Human Recombinant BMP-2 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant BMP-2 has a predicted molecular mass of 26 kDa.

Related Products

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References


