



Bone Morphogenetic protein Receptor-1A, HEK, human recombinant (rHuBMPR1A-HEK)

Catalog No: 97358
Lot No: XXXXX
Source: HEK293
Synonyms: BMPR-1A, BMP-R1A, BMPR1A, BMR1A, CD292, CD-292, Serine/threonine-protein kinase receptor R5, SKR5, Activin receptor-like kinase 3, ALK-3, ACVRLK3, EC 2.7.11.30, CD292 antigen

Background

The bone morphogenetic protein (BMP) receptors are a family of transmembrane serine/threonine kinases that include the type I receptors BMPR1A and BMPR1B and the type II receptor BMPR2. These receptors are also closely related to the activin receptors, ACVR1 and ACVR2. The ligands of these receptors are members of the TGF-beta superfamily. TGF-betas and activins transduce their signals through the formation of heteromeric complexes with 2 different types of serine (threonine) kinase receptors: type I receptors of about 50-55 kDa and type II receptors of about 70-80 kDa. Type II receptors bind ligands in the absence of type I receptors, but they require their respective type I receptors for signaling, whereas type I receptors require their respective type II receptors for ligand binding.

Description

BMPR1A Human Recombinant produced in HEK293 cells is a single, glycosylated, polypeptide chain containing 369 amino acids with a molecular weight of 43.7 kDa though on SDS-PAGE migrates at about 50 kDa due to glycosylation. BMPR1A is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

The BMPR1A protein was lyophilized from a 0.2 µm filtered solution containing no additives or preservatives.

Solubility

It is recommended to reconstitute the lyophilized BMPR1A in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized BMPR1A although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution BMPR1A should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 95.0% as determined by SDS-PAGE.

Amino Acid Sequence

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QNLDSMLHGT GMKSDSDQKK SENGVTLAPE DTLPLFLKCYC SGHCPDDAIN NTCITNGHCF AIIEEDDQGE TTLASGCMKY  
EGSDFQCKDS PKAQLRRTIE CCRTNLCNQY LQPTLPPVVI GPFDFGSIRE NLYFQGGSGT KLDKTHTCP PPAPELLGGP  
SVFLFPPKPK DTLMISRTP E VTCVVVDVSH GDPEVKFNWY VDGVEVHNAK TKPREEQYNS TYRVVSVLTV LHQDWLNGKE  
YKCKVSNKAL PAPIEKTISK AKGQPREPQV YTLPPSRDEL TKNQVSLTCL VKGFYPSDIA VEWESNGQPE NNYKTTTPVL  
DSDGSFFLYS KLTVDKSRWQ QGNVFSCSV HEALHNHYTQ KSLSLSPGK
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CONTACT US TODAY

BIOMOL GmbH • Kieler Straße 303a • 22525 Hamburg • Germany • info@biomol.de • www.biomol.de

Fon: +49 (0)40-853 260 0 • TOLL FREE IN GERMANY: Fon: 0800-246 66 51



Activity

The biological activity of human BMPR1A was determined by its ability to inhibit human BMP-4 induction of alkaline phosphatase in the mouse chondrogenic cell line ATDC5. The observed ED50 range is from 0.1 to 0.3 µg/ml in the presence of 30 ng/ml of recombinant human BMP-4 protein.

Usage

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