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Recombinant human BMP-4 protein (Qk038)



Type: Stem cells

Available for purchase: Unit Size (µg): 25, 50, 100, 500, 1000

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Product Information

Human BMP-4 (bone morphogenetic protein 4) is a key regulator of embryogenesis and supports the differentiation of embryonic stem cells and induced pluripotent stem cells. In addition, BMP-4 protein plays roles in the differentiation of mesenchymal cells to adipocytes, epithelial cancer EMT, and regulating neuronal and glial cell development.

Qkine BMP-4 is a highly pure, animal origin-free and carrier protein-free 24 kDa disulfide–linked bioactive dimer comprised of the mature domain of human BMP-4 protein.

This protein is also available as GMP compliant Cell Therapy Grade, to enquire email support@qkine.com.

Alternative protein names

Bone morphogenetic protein 4, Bone morphogenetic protein 2B, BMP-2B, BMP2B, DVR4, BMP4, BMP 4, Qk38

Product Size Wording

500ug shipped as 5 x 100ug | 1000ug shipped as 10 x 100ug

Molecular weight

24 kDa (dimer)

Protein Uniprot number

High purity optimized human BMP-4 protein (Uniprot: P12644)

Species reactivity

- human
- species similarity:
- mouse - 98%
- rat - 98%
- bovine - 99%
- porcine - 99%

Product Information

- >98%, by SDS-PAGE quantitative densitometry
- Expressed in *E. coli*
- Animal origin-free (AOF) and carrier protein-free
- Manufactured in our Cambridge, UK laboratories
- Lyophilized from acetonitrile, TFA

Reconstitution instructions

- Resuspend in 10 mM HCl (Reconstitution solution A) at >50 µg/ml

Featured applications

- Induced pluripotent and embryonic stem cell differentiation and maintenance
- Chemically defined media optimization
- Neural organoid growth and differentiation
- iPSC-derived mesoderm differentiation
- Stem cell differentiation into neural and microglial lineages
- Differentiation of iPSC into endoderm

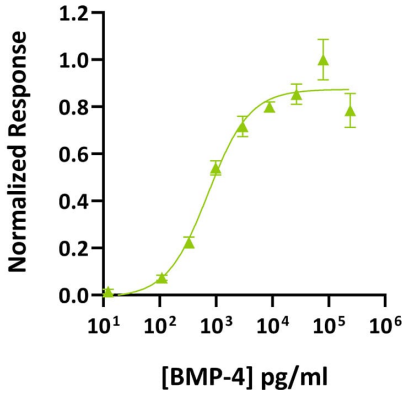
Further quality assays

- Mass spectrometry: single species with expected mass
- Recovery from stock vial: >95%
- Endotoxin: <0.05 EU/µg protein

Scientific Information

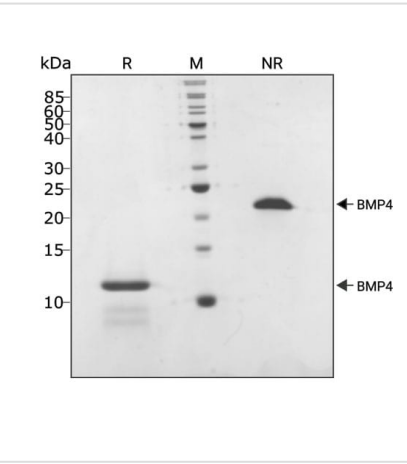
Bioactivity

BMP-4 activity was determined using the BMP4-responsive firefly luciferase reporter assay in transfected HEK293T cells. Cells were treated in triplicate with a serial dilution of BMP-4 for 6 hours. Firefly luciferase activity was measured and normalized to the control Renilla luciferase activity. EC50 = 30.2 pM (0.72 ng/ml). Data from Qk038 lot #104294.



Purity

BMP-4 protein (Qk038) dimer migrates as a single band at 24 kDa in non-reducing (NR) and 13 kDa as a single monomeric species upon reduction (R). High purity yield of dimeric protein (bioactive form). Purified recombinant protein (3 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptoethanol, R) and non-reduced conditions (NR) and stained with Coomassie Brilliant Blue R250. Data from Qk038 lot #104294.



Original product page: https://qkine.com/product/recombinant-human-bmp-4-protein-qk038/

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