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Recombinant human BDNF protein (Qk050)



Type: Stem cells

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

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Product Information

Brain-derived neurotrophic factor (BDNF) is a member of neurotrophin family and plays a crucial role in neural development, maintenance, and function. It stimulates neurogenesis and is also a major regulator of synaptic plasticity and neuroprotection. It is used to maintain neurons and differentiate and mature human pluripotent stem cell-derived neural progenitors to cortical and motor neurons and cortical organoids.

Recombinant human BDNF protein has a molecular weight of 14 kDa. This protein is animal origin-free, carrier-free, tag-free, and non-glycosylated to ensure its purity with exceptional lot-to-lot consistency. Qk050 is suitable for the culture of reproducible and high-quality cortical and motor neurons and cortical organoids.

Qkine BDNF is also available as cell therapy grade with extended quality testing and documentation - Qk050-CTG

Alternative protein names

brain-derived neurotrophic factor, abrineurin, Qk50

Molecular weight

14 kDa

Protein Uniprot number

High purity human BDNF protein (Uniprot: P23560)

Species reactivity

- human
- species similarity:
- mouse - 99%
- rat - 100%
- bovine - 100%
- porcine - 100%

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 sterile-filtered water at >50 µg/ml

Featured applications

- Differentiation of midbrain dopaminergic neurons
- Differentiation of iPSC derived neural progenitors to neurons
- Neural organoid growth and differentiation
- Generation of iPSC-derived midbrain organoids
- Neural differentiation from pluripotent stem cells

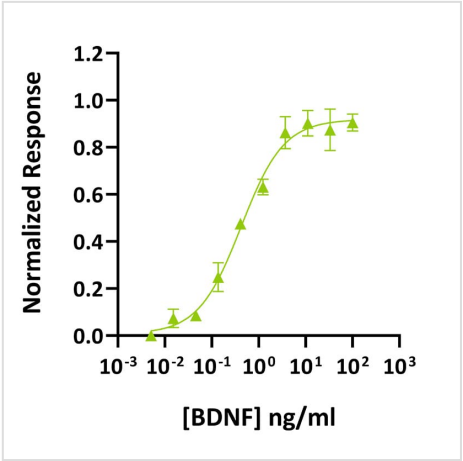
Further quality assays

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

Scientific Information

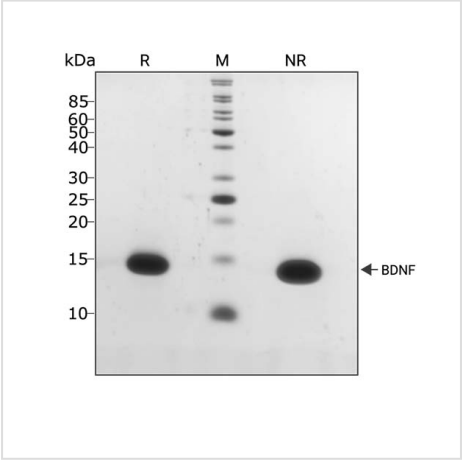
Bioactivity

Recombinant BDNF activity was determined using a NFAT-luciferase reporter assay in transfected HEK293T cells also expressing TrkB. EC50 = 0.58 ng/ml (41 pM). Cells are treated in triplicate with a serial dilution of BDNF for 6 hours. Firefly luciferase activity is measured and normalized to the control Renilla luciferase activity. Data from Qk050 lot #104465.



Purity

Qk050 migrates as a single band at 14 kDa in non-reducing (NR) conditions and upon reduction (R). No contaminating protein bands are visible. Purified recombinant protein (3 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptothanol, R) and non-reduced (NR) conditions and stained with Coomassie Brilliant Blue R250. Data from Qk050 batch #104346.



Original product page: https://qkine.com/product/recombinant-human-bdnf-protein-qk050/

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