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Recombinant human BDNF protein (Qk050-CTG)



Type: Cell Therapy Grade

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. BDNF is essential for neuronal maintenance and differentiation for neural regenerative stem cell therapies.

Cell therapy grade BDNF protein has a molecular weight of 14 kDa, animal origin-free, carrier-free, tag-free, and non-glycosylated to ensure its purity with exceptional lot-to-lot consistency.

Qkine cell therapy grade high purity animal origin-free proteins are manufactured as GMP grade equivalents in an ISO 9001:2015-certified facility, under ISO 20399:2022 standards with GMP compliance, defined quality criteria and documentation.

Alternative protein names

brain-derived neurotrophic factor, abrineurin, Qk50, GMP BDNF

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

- Certified animal origin-free (AOF)
- Cell and gene therapy grade
- Manufactured in our ISO 9001:2015 facility in Cambridge, UK
- Lot-to-lot consistency in bioactivity
- Full traceability and documentation
- Carrier protein-free, tag free
- Expressed in *E. coli*
- Lyophilized from acetonitrile, TFA

Reconstitution instructions

- Resuspend in sterile-filtered water at >50 µg/ml

Featured applications

- Regenerative stem cell therapy
- Neurogenesis and neural differentiation
- Neural stem cell (NSC) therapy
- Generation of iPSC-derived midbrain organoids
- Neural differentiation from pluripotent stem cells

Further quality assays

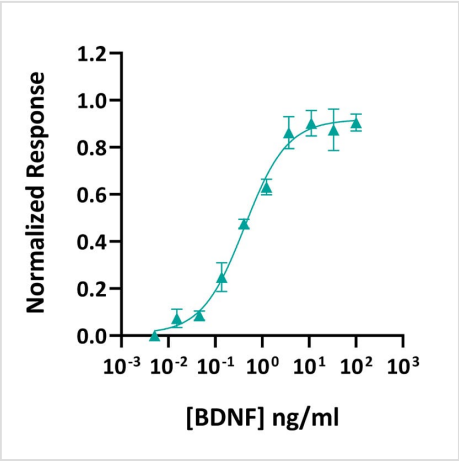
- Mass spectrometry: single species with expected mass
- Purity >98%, by SDS-PAGE quantitative densitometry
- Recovery from stock vial: >95%
- Sterility tested and mycoplasma negative
- Endotoxin: <0.05 EU/µg protein

- Residual host cell protein <10 ng/µg
- Residual host cell DNA <10 ng/µg
- N-terminal sequence analysis

Scientific Information

Bioactivity

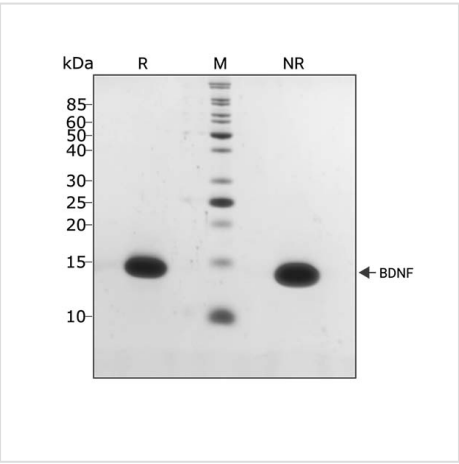
Recombinant BDNF activity was determined using a NFAT-luciferase reporter assay in transfected HEK293T cells also expressing TrkB. EC50 = 0.58 ng/ml (41 pM). Cells are treated in triplicate with a serial dilution of BDNF for 6 hours. Firefly luciferase activity is measured and normalized to the control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



The specific activity of cell therapy grade BDNF is >5 x 10^5 IU/mg, which is calibrated against the human BDNF WHO standard (NIBSC code: 96/534).

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 lot #104346.



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

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