

## Recombinant rat BDNF protein (Qk023)



**Type:** Stem cells

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

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### Product Information

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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 mature [pluripotent](#) stem cell-derived neural progenitors to cortical and motor neurons and cortical organoids.

Recombinant rat 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. Qkine BDNF is suitable for the culture of reproducible and high-quality cortical and motor neurons and cortical [organoids](#).

#### Alternative protein names

brain-derived neurotrophic factor, abrineurin, Qk23

#### Molecular weight

14 kDa

#### Protein Uniprot number

High purity BDNF protein (Uniprot: P23363)

#### Species reactivity

- rat
- species similarity:
- mouse - 99%
- human - 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
- Generation of iPSC-derived midbrain organoids

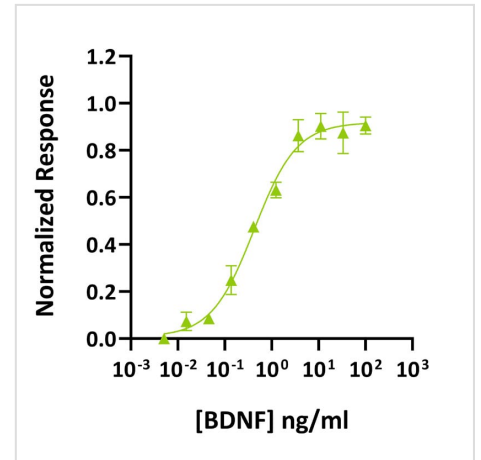
### **Further quality assays**

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

## Scientific Information

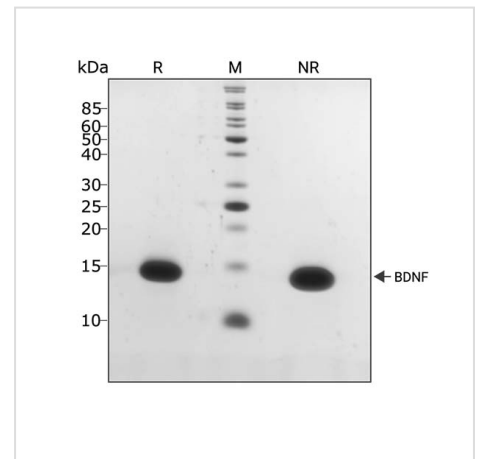
### Bioactivity

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 lot #104465.



### Purity

Recombinant BDNF 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-mercaptoethanol, R) and non-reduced (NR) conditions and stained with Coomassie Brilliant Blue R250.



**Original product page:** <https://ryan.calliope-alpha.ts.net/product/recombinant-rat-bdnf-protein-qk023/>

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