



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Rat, Cynomolgus monkey
Applications:	ELISA(Cap)
Clone number:	PSH27-08

Description: Brain-derived neurotrophic factors (Bdnf), or abrineurin, is a protein that, in humans, is encoded by the BDNF gene. BDNF is a member of the neurotrophin family of growth factors, which are related to the canonical nerve growth factor (NGF), a family which also includes NT-3 and NT-4/NT-5. Neurotrophic factors are found in the brain and the periphery. BDNF was first isolated from a pig brain in 1982 by Yves-Alain Barde and Hans Thoenen. BDNF activates the TrkB tyrosine kinase receptor. BDNF acts on certain neurons of the central nervous system and the peripheral nervous system expressing TrkB, helping to support survival of existing neurons, and encouraging growth and differentiation of new neurons and synapses. In the brain it is active in the hippocampus, cortex, and basal forebrain—areas vital to learning, memory, and higher thinking. BDNF is also expressed in the retina, kidneys, prostate, motor neurons, and skeletal muscle, and is also found in saliva.

Immunogen: Recombinant protein within Human BDNF aa 129-247 (HA211599).

Positive control: Recombinant Human BDNF protein (HA211599).

Subcellular location: Secreted.

Database links: SwissProt: P23560 Human | P23363 Rat

Recommended Dilutions:

ELISA(Cap) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH27-09] to Human/Rat/Monkey BDNF (Detecor) (HA724670) or Rabbit monoclonal [PSH27-10] to Human/Rat/Monkey BDNF (Detecor) (HA724671) and Recombinant Human BDNF protein (HA211599) as the standard. The reference range value is 7.8-1,000 pg/mL.

Storage Buffer: 1*PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

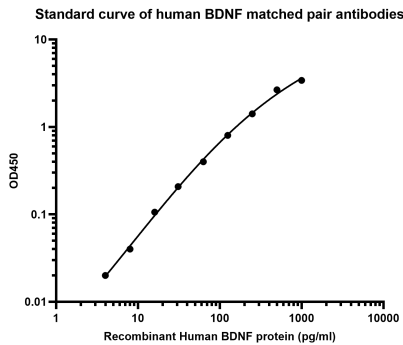
Purity: Protein A affinity purified.

Images

Fig1: Sandwich ELISA analysis of Human BDNF matched pair antibodies

Capture: HA724669, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-08]

Detector: HA724670, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-09]

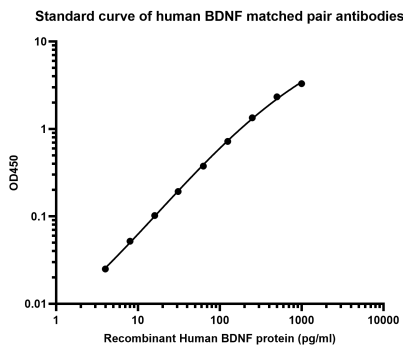


Elisa assay was performed by coating wells of a 96-well plate with 100 μ l per well of capture antibody (HA724669) diluted in carbonate/bicarbonate buffer, at a concentration of 2 μ g/mL overnight at 4 $^{\circ}$ C. Wells of the plate were washed, blocked with 150 μ l 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted Recombinant Human BDNF protein (HA211599) starting from 1,000 pg/mL to 0 pg/mL and detect antibody (HA724670, Biotin, 0.2 μ g/mL) for 1 hour at 30 $^{\circ}$ C with shaking. Then the plate was washed and incubated with 100 μ l per well of SA-HRP for 0.5 hour at 30 $^{\circ}$ C with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

Fig2: Sandwich ELISA analysis of Human BDNF matched pair antibodies

Capture: HA724669, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-08]

Detector: HA724671, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-10]



Elisa assay was performed by coating wells of a 96-well plate with 100 μ l per well of capture antibody (HA724669) diluted in carbonate/bicarbonate buffer, at a concentration of 2 μ g/mL overnight at 4 $^{\circ}$ C. Wells of the plate were washed, blocked with 150 μ l 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted Recombinant Human BDNF protein (HA211599) starting from 1,000 pg/mL to 0 pg/mL and detect antibody (HA724671, Biotin, 0.2 μ g/mL) for 1 hour at 30 $^{\circ}$ C with shaking. Then the plate was washed and incubated with 100 μ l per well of SA-HRP for 0.5 hour at 30 $^{\circ}$ C with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

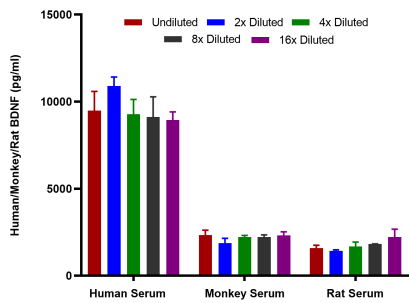


Fig3: Interpolated concentrations of native BDNF in human, cynomolgus monkey and rat samples.

Capture: HA724669, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-08]
Detector: HA724670, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-09]

Interpolated concentration of native BDNF was measured in duplicate at different sample concentrations. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean BDNF concentration was determined to be 9,552 pg/mL in human serum, 2,193 pg/mL in cynomolgus monkey serum and 1,462 pg/mL in rat serum.

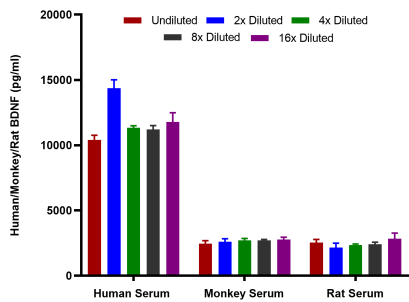


Fig4: Interpolated concentrations of native BDNF in human, cynomolgus monkey and rat samples.

Capture: HA724669, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-08]
Detector: HA724671, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-10]

Interpolated concentration of native BDNF was measured in duplicate at different sample concentrations. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean BDNF concentration was determined to be 11,819 pg/mL in human serum, 2,649 pg/mL in cynomolgus monkey serum and 2,462 pg/mL in rat serum.

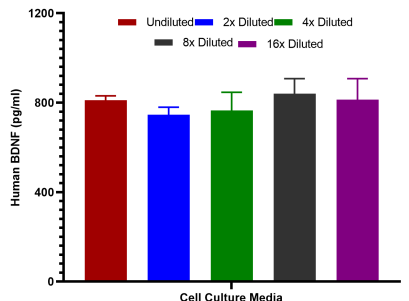


Fig5: Interpolated concentrations of spiked BDNF in cell culture media samples.

Capture: HA724669, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-08]
Detector: HA724670, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-09]

The concentrations of BDNF were measured in duplicates, interpolated from the BDNF standard curves and corrected for sample dilution. Diluted samples are as follows: 50% cell culture media with FBS. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

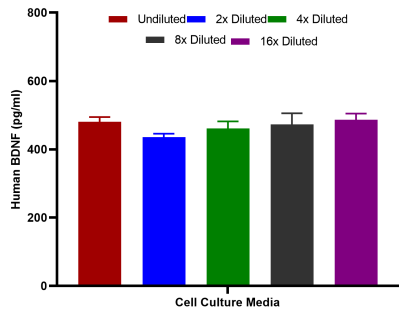


Fig6: Interpolated concentrations of spiked BDNF in cell culture media samples.

Capture: HA724669, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-08]

Detector: HA724671, Human/Rat/Monkey BDNF Rabbit mAb [PSH27-10]

The concentrations of BDNF were measured in duplicates, interpolated from the BDNF standard curves and corrected for sample dilution. Diluted samples are as follows: 50% cell culture media with FBS. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

Note: All products are “FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE”.

Background References

1. Wang CS et al. BDNF signaling in context: From synaptic regulation to psychiatric disorders. Cell. 2022 Jan
2. Albin M et al. Astrocytes and brain-derived neurotrophic factor (BDNF). Neurosci Res. 2023 Dec

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Applications:WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Cell=Immunofluorescence (Cell) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation