Biotin Conjugated Anti-Human beta Synuclein Antibody [PSH19-25] - Detector

HA725226B

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	ELISA(Det), ELISA
Clone number:	PSH19-25

Description: Beta-synuclein is a protein that in humans is encoded by the SNCB gene. The protein encoded by this gene is highly homologous to alpha-synuclein. These proteins are abundantly expressed in the brain and putatively inhibit phospholipase D2 selectively. The encoded protein, which may play a role in neuronal plasticity, is abundant in neurofibrillary lesions of patients with Alzheimer's disease. This protein has been shown to be highly expressed in the substantia nigra of the brain, a region of neuronal degeneration in patients with Parkinson's disease; however, no direct relation to Parkinson's disease has been established. Two transcript variants encoding the same protein have been found for this gene. Beta-synuclein is a synuclein protein found primarily in brain tissue and is seen mainly in presynaptic terminals. Beta-synuclein is predominantly expressed in the neocortex, hippocampus, striatum, thalamus, and cerebellum. It is not found in Lewy bodies, but it is associated with hippocampal pathology in PD and DLB. Beta-synuclein is suggested to be an inhibitor of alpha-synuclein aggregation, which occurs in neurodegenerative diseases such as Parkinson's disease. Thus, beta-synuclein may protect the central nervous system from the neurotoxic effects of alpha-synuclein and provide a novel treatment of neurodegenerative disorders.

Conjugate:	Biotin-conjugated
Immunogen:	Recombinant protein within Human beta Synuclein aa 1-134 (HA211157).
Positive control:	Recombinant Human beta Synuclein protein (HA211157).
Subcellular location:	Cytoplasm.
Database links:	SwissProt: Q16143 Human | Q91ZZ3 Mouse | Q63754 Rat

Recommended Dilutions:

ELISA(Det)	Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH19-24] to Human beta Synuclein antibody (Capture) (HA725225) and Recombinant Human beta Synuclein protein (HA211157) as the standard. The reference range value is 156.3-10,000 pg/mL.
ELISA	Use at an assay dependent concentration.
Storage Buffer:	1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.05% Proclean 300.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

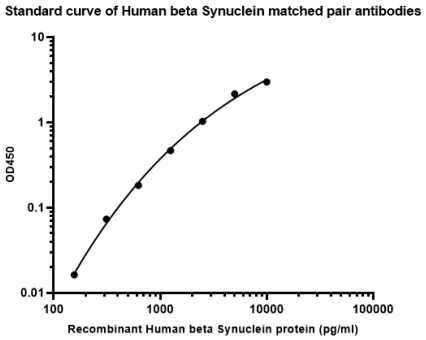

Fig1: Sandwich ELISA analysis of human beta Synuclein matched pair antibodies

Capture: HA725225, Human beta Synuclein Rabbit mAb [PSH19-24]
Detector: HA725226, Human beta Synuclein Rabbit mAb [PSH19-25]

Elisa assay was performed by coating wells of a 96-well plate with 50 µl per well of capture antibody (HA725225) diluted in carbonate/bicarbonate buffer, at a concentration of 2 µg/ml overnight at 4℃. Wells of the plate were washed, blocked with 150 µl 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted Recombinant Human beta Synuclein protein (HA211157) starting from 2,000 pg/ml to 0 pg/ml and detect antibody (HA725226, Biotin, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 50 µl per well of SA-HRP for 0.5 hour at 30℃ 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.

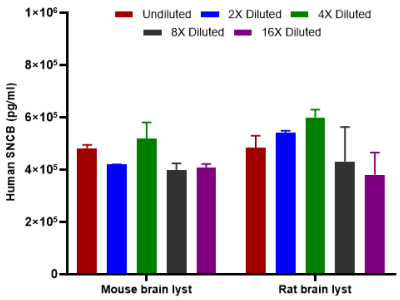

Fig2: Interpolated concentrations of native SNCB in Mouse brain and Rat brain lyst samples based on a 1,000 µg/ml extract load.

Capture: HA725225, Human beta Synuclein Rabbit mAb [PSH19-24]
Detector: HA725226, Human beta Synuclein Rabbit mAb [PSH19-25]

The concentrations of SNCB were measured in duplicates, interpolated from the SNCB standard curve and corrected for sample dilution. Undiluted samples are Mouse brain lyst and Rat brain lyst. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean SNCB concentration was determined to be 444,479 pg/ml in Mouse brain lyst and 486,887 pg/ml in Rat brain lyst.

Background References

1. Xian M et al. beta-Synuclein Intermediates alpha-Synuclein Neurotoxicity in Parkinson's Disease. ACS Chem Neurosci. 2024 Jul
2. Hayashi J et al. beta-Synuclein: An Enigmatic Protein with Diverse Functionality. Biomolecules. 2022 Jan