



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	ELISA(Det), ELISA
Clone number:	PSH18-41

Description: Synapsin I, is the collective name for Synapsin Ia and Synapsin Ib, two nearly identical phosphoproteins that in humans are encoded by the SYN1 gene. In its phosphorylated form, Synapsin I may also be referred to as phosphosynapsin I. Synapsin I is the first of the proteins in the synapsin family of phosphoproteins in the synaptic vesicles present in the central and peripheral nervous systems. Synapsin Ia and Ib are close in length and almost the same in make up, however, Synapsin Ib stops short of the last segment of the C-terminal in the amino acid sequence found in Synapsin Ia.

Conjugate: Biotin-conjugated

Immunogen: Recombinant protein within Human Synapsin I aa 1-705 (HA211359).

Positive control: Recombinant Human Synapsin I protein (HA211359).

Subcellular location: Synapse, Golgi apparatus, Presynapse, Cytoplasmic vesicle, secretory vesicle, synaptic vesicle.

Database links: SwissProt: P17600 Human | O88935 Mouse | P09951 Rat

Recommended Dilutions:

ELISA(Det) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH18-40] to Human/Mouse/Rat Synapsin I antibody (Capture) (HA723993) and Recombinant Human Synapsin I protein (HA211359) as the standard. The reference range value is 187-48,000 pg/mL.
ELISA Use at an assay dependent concentration.

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.05% Proclean 300.

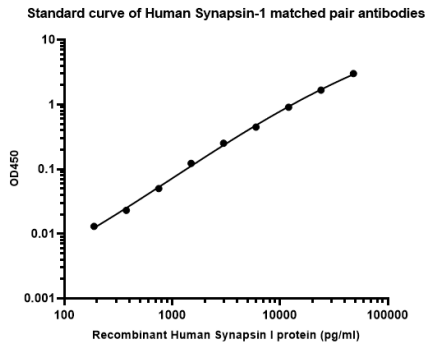
Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

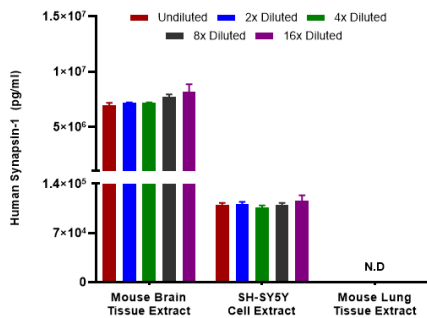
Fig1: Sandwich ELISA analysis of human Synapsin 1 matched pair antibodies

Capture: HA723993, Human/Mouse/Rat Synapsin I Rabbit mAb [PSH18-40]
Detector: HA723994, Human/Mouse/Rat Synapsin I Rabbit mAb [PSH18-41]



Elisa assay was performed by coating wells of a 96-well plate with 100 μ l per well of capture antibody (HA723993) diluted in carbonate/bicarbonate buffer, at a concentration of 2ug/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 Synapsin I protein (HA211359) starting from 48,000 pg/ml to 0 pg/ml and detect antibody (HA723994, 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: Interpolated concentrations of native Synapsin-1 in SH-SY5Y cell extract, mouse brain and mouse lung tissue extract samples based on a 1000 μ g/ml extract load.



Capture: HA723993, Human/Mouse/Rat Synapsin I Rabbit mAb [PSH18-40]
Detector: HA723994, Human/Mouse/Rat Synapsin I Rabbit mAb [PSH18-41]

Interpolated concentration of native Synapsin-1 was measured in duplicate at different sample concentrations and interpolated from the Synapsin-1 standard curves. The interpolated dilution factor corrected values were plotted (mean $\pm$ SD, n=2). The mean Synapsin-1 concentration was determined to be 7.428 ug/mL in mouse brain tissue extract and 110 ng/mL in SH-SY5Y cell extract. There was no detectable signal in mouse lung tissue extract.

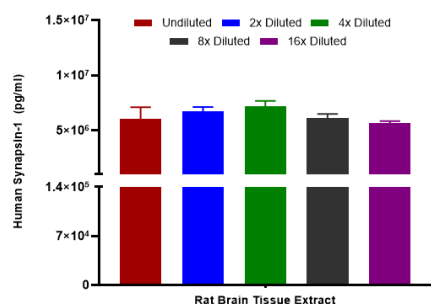


Fig3: Interpolated concentrations of native Synapsin-1 in rat brain tissue extract samples based on a 1000 µg/ml extract load.

Capture: HA723993, Human/Mouse/Rat Synapsin I Rabbit mAb [PSH18-40]

Detector: HA723994, Human/Mouse/Rat Synapsin I Rabbit mAb [PSH18-41]

Interpolated concentration of native Synapsin-1 was measured in duplicate at different sample concentrations and interpolated from the Synapsin-1 standard curves. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean Synapsin-1 concentration was determined to be 6.329 ug/mL in rat brain tissue extract.

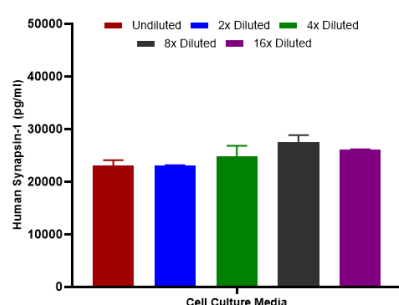


Fig4: Interpolated concentrations of spiked Synapsin-1 in cell culture media samples.

Capture: HA723993, Human/Mouse/Rat Synapsin I Rabbit mAb [PSH18-40]

Detector: HA723994, Human/Mouse/Rat Synapsin I Rabbit mAb [PSH18-41]

The concentrations of Synapsin-1 were measured in duplicates, interpolated from the Synapsin-1 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).

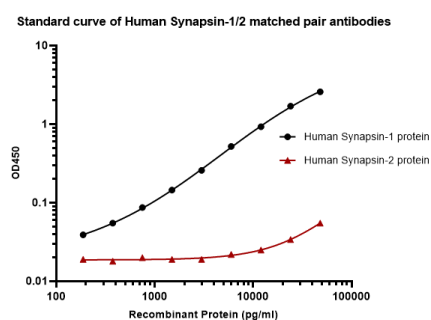


Fig5: Sandwich ELISA analysis of human Synapsin 1 matched pair antibodies

Capture: HA723993, Human/Mouse/Rat Synapsin I Rabbit mAb [PSH18-40]

Detector: HA723994, Human/Mouse/Rat Synapsin I Rabbit mAb [PSH18-41]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723993) diluted in carbonate/bicarbonate buffer, at a concentration of 2ug/ml overnight at 4°C. 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 Synapsin I (HA211359) or Human Synapsin 2 protein starting from 48,000 pg/ml to 0 pg/ml and detect antibody (HA723994, Biotin, 0.2 µg/ml) for 1 hour at 30°C with shaking. Then the plate was washed and incubated with 100 µl per well of SA-HRP for 0.5 hour at 30°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

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

Background References

1. Van Boxtael E et al. Treating seizures in SYN1-related epilepsy: a systematic review. *Seizure*. 2025 Sep
2. Xiong J et al. Familial SYN1 variants related neurodevelopmental disorders in Asian pediatric patients. *BMC Med Genomics*. 2021 Jul

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