Biotin Conjugated Anti-NuMA Antibody [PSH03-08] - Detector

HA601357B

Product Type:	Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Det), ELISA
Molecular Wt:	Predicted band size: 238 kDa kDa
Clone number:	PSH03-08

Description: Microtubule (MT)-binding protein that plays a role in the formation and maintenance of the spindle poles and the alignement and the segregation of chromosomes during mitotic cell division. Functions to tether the minus ends of MTs at the spindle poles, which is critical for the establishment and maintenance of the spindle poles. Plays a role in the establishment of the mitotic spindle orientation during metaphase and elongation during anaphase in a dynein-dynactin-dependent manner. In metaphase, part of a ternary complex composed of GPSM2 and G(i) alpha proteins, that regulates the recruitment and anchorage of the dynein-dynactin complex in the mitotic cell cortex regions situated above the two spindle poles, and hence regulates the correct oritentation of the mitotic spindle. During anaphase, mediates the recruitment and accumulation of the dynein-dynactin complex at the cell membrane of the polar cortical region through direct association with phosphatidylinositol 4,5-bisphosphate (PI(4,5)P2), and hence participates in the regulation of the spindle elongation and chromosome segregation. Also required for proper orientation of the mitotic spindle during asymmetric cell divisions. Plays a role in mitotic MT aster assembly. Positively regulates TNKS protein localization to spindle poles in mitosis.

Conjugate:	Biotin-conjugated
Immunogen:	Recombinant protein within Human NuMA aa 1-200 / 2,115 (HA210958).
Positive control:	Recombinant Human NuMA protein (HA210958).
Subcellular location:	Nucleus, Cytoskeleton, Plasma membrane.
Database links:	SwissProt: Q14980 Human

Recommended Dilutions:

ELISA(Det)	Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Mouse monoclonal [PSH03-07] to Human NuMA (Capture) (HA601223) and Recombinant Human NuMA protein (HA210958) as the standard. The reference range value is 51-12500 pg/ml.
ELISA	Use at an assay dependent concentration.
Storage Buffer:	PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% ProClin300.
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

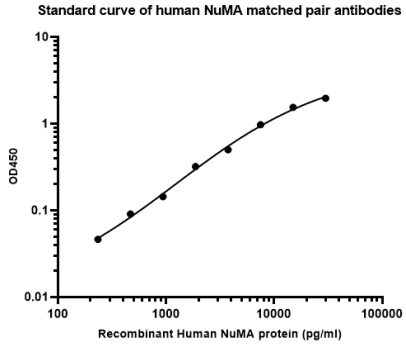

Fig1: Sandwich ELISA analysis of human NuMA matched pair antibodies

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA601223) diluted in carbonate/bicarbonate buffer, at a concentration of 5ug/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 NuMA protein (HA210958) starting from 30000 pg/ml to 0 pg/ml and detect antibody (HA601224, Biotin, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 100 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.

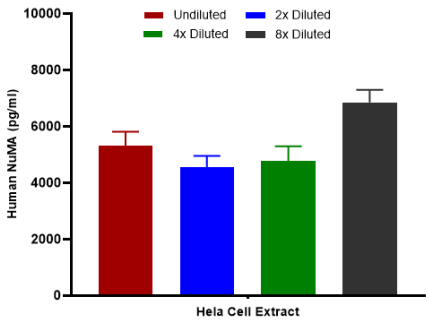

Fig2: Interpolated concentrations of native NuMA in Hela extract samples based on a 1000 µg/ml extract load.

Interpolated concentration of native NuMA was measured in duplicate at different sample concentrations and interpolated from the NuMA standard curves. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean NuMA concentration was determined to be 5,378 pg/mL in Hela cell extract.

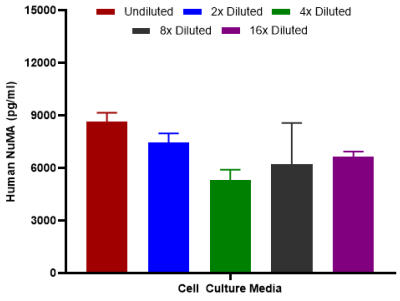

Fig3: Interpolated concentrations of spiked NuMA in cell culture media samples.

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

Background References

1. Zou YS. et. al. Novel t(5;11)(q32;q13.4) with NUMA1-PDGFRB fusion in a myeloid neoplasm with eosinophilia with response to imatinib mesylate. Cancer Genet. 2017 Apr
2. Torii T. et. al. NuMA1 promotes axon initial segment assembly through inhibition of endocytosis. J Cell Biol. 2020 Feb.

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