Anti-Stathmin Antibody [PD00-54]

HA721179

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	IHC-P, WB, IF-Cell, IF-Tissue, FC
Molecular Wt:	Predicted band size: 17 kDa
Clone number:	PD00-54

Description: Stathmin, also known as oncoprotein 18 (Op18), is a ubiquitously expressed 19 kDa cytosolic phosphoprotein responsible for integrating various cellular regulatory signals. Stathmin has been implicated in both G1-S and G2-M checkpoint control of cell cycle progression and plays a major role in cell proliferation, differentiation, development and morphogenesis. Overexpression of Stathmin has been associated with tumor progression in endometrial carcinomas, ovarian carcinoma and oral squamous cell carcinoma. A recent study by Howitt et al. on 193 cervical lesions demonstrated that Stathmin was positive in 5/56 (9%) CIN1, 5/11 (45%) CIN2, 14/15 (93%) CIN3 cases of cervical intraepithelial neoplasias; and all of adenocarcinoma in situ (19/19), invasive squamous cell carcinoma (32/32) and adenocarcinoma (34/34) cases. It is valuable to distinguish CIN3 from the majority of low-grade precursors and negative/reactive cervical biopsies.

Immunogen: Synthetic peptide within Human Stathmin 1 aa 100 to the C-terminus (internal sequence).

Positive control: HeLa cell tissue lysate, SH-SY5Y cell tissue lysate, Jurkat cell tissue lysate, Mouse brain tissue lysate, Rat brain tissue lysate, human breast cancer tissue, human colon cancer tissue, human endometrial carcinoma tissue, human tonsil tissue, human liver tissue, Jurkat, mouse brain tissue, rat brain tissue.

Subcellular location: Cytoskeleton

Database links: SwissProt: P16949 Human | P54227 Mouse | P13668 Rat

Recommended Dilutions:

IHC-P	1:2,000-1:5,000
WB	1:1,000
IF-Cell	1:1,000
IF-Tissue	1:500
FC	1:1,000

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

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

Purity: Protein A affinity purified.

Images

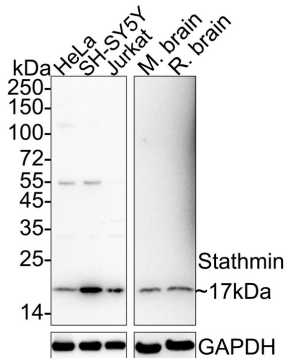

Fig1: Western blot analysis of Stathmin on different lysates with Rabbit anti-Stathmin antibody (HA721179) at 1/1,000 dilution.

Lane 1: HeLa cell tissue lysate (20 µg/Lane)
Lane 2: SH-SY5Y cell tissue lysate (20 µg/Lane)
Lane 3: Jurkat cell tissue lysate (20 µg/Lane)
Lane 4: Mouse brain tissue lysate (40 µg/Lane)
Lane 5: Rat brain tissue lysate (40 µg/Lane)

Predicted band size: 17 kDa
Observed band size: 17 kDa

Exposure time: 3 minutes; ECL: K1801;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721179) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

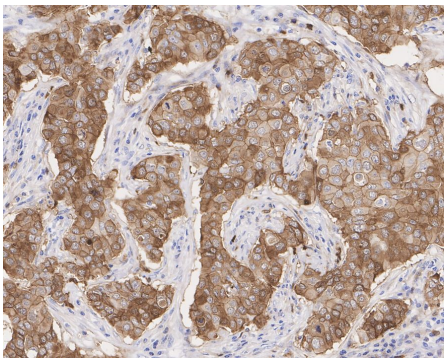

Fig2: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue with Rabbit anti-Stathmin antibody (HA721179) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721179) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

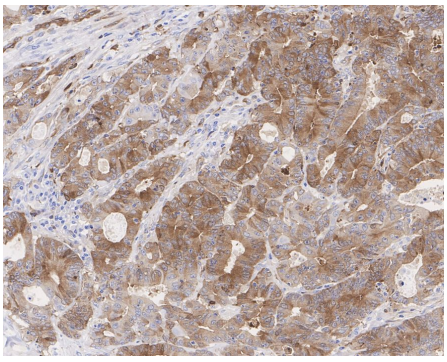

Fig3: Immunohistochemical analysis of paraffin-embedded human colon cancer tissue with Rabbit anti-Stathmin antibody (HA721179) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721179) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

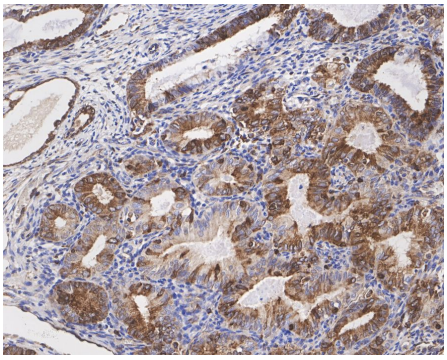

Fig4: Immunohistochemical analysis of paraffin-embedded human endometrial carcinoma tissue with Rabbit anti-Stathmin antibody (HA721179) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721179) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

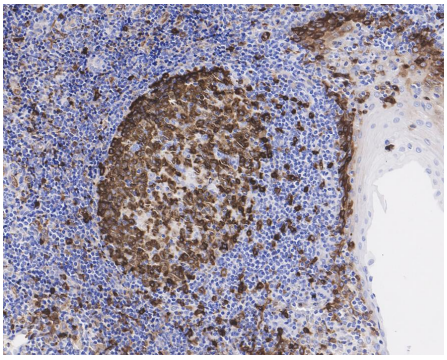

Fig5: Immunohistochemical analysis of paraffin-embedded human tonsil tissue with Rabbit anti-Stathmin antibody (HA721179) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721179) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

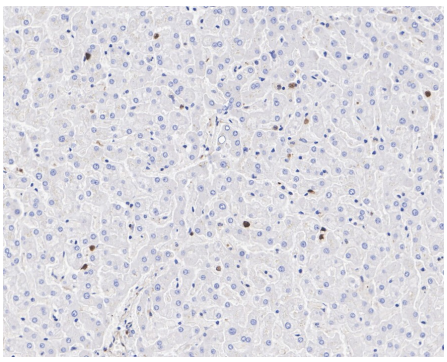

Fig6: Immunohistochemical analysis of paraffin-embedded human liver tissue (low expression) with Rabbit anti-Stathmin antibody (HA721179) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721179) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

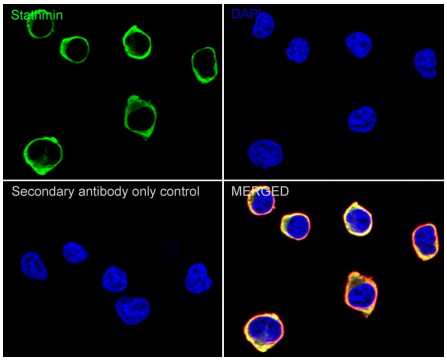

Fig7: Immunocytochemistry analysis of Jurkat cells labeling Stathmin with Rabbit anti-Stathmin antibody (HA721179) at 1/1,000 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Stathmin antibody (HA721179) at 1/1,000 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

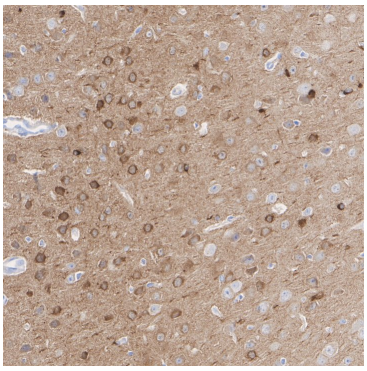

Fig8: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-Stathmin antibody (HA721179) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721179) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

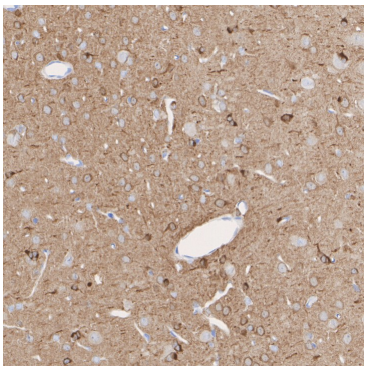

Fig9: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-Stathmin antibody (HA721179) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721179) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

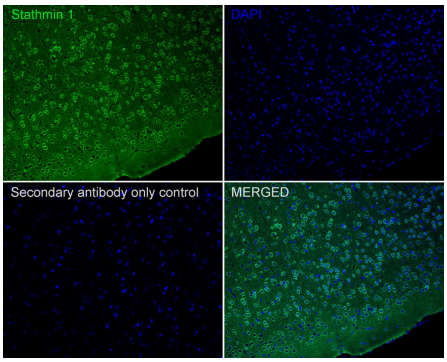

Fig10: Immunofluorescence analysis of paraffin-embedded mouse brain tissue labeling Stathmin with Rabbit anti-Stathmin antibody (HA721179) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA721179, green) at 1/500 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

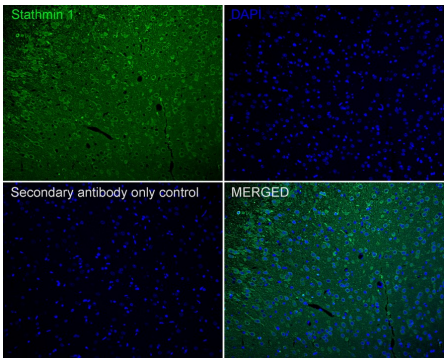

Fig11: Immunofluorescence analysis of paraffin-embedded rat brain tissue labeling Stathmin with Rabbit anti-Stathmin antibody (HA721179) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA721179, green) at 1/500 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

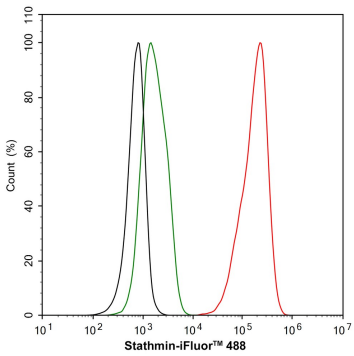

Fig12: Flow cytometric analysis of Jurkat cells labeling Stathmin.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA721179, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

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

Background References

1. Leiphrakpam PD et al. Stathmin expression in metastatic colorectal cancer. J Surg Oncol. 2021 May
2. Yoshie M et al. Stathmin dynamics modulate the activity of eribulin in breast cancer cells. Pharmacol Res Perspect. 2021 Aug