Anti-Stathmin 1 Antibody [11E1]

EM1801-19

Product Type:	Mouse monoclonal IgG2b, primary antibodies
Species reactivity:	Human
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 17 kDa
Clone number:	11E1

Description: This gene belongs to the stathmin family of genes. It encodes a ubiquitous cytosolic phosphoprotein proposed to function as an intracellular relay integrating regulatory signals of the cellular environment. The encoded protein is involved in the regulation of the microtubule filament system by destabilizing microtubules. It prevents assembly and promotes disassembly of microtubules. Multiple transcript variants encoding different isoforms have been found for this gene. Phosphorylation at Ser-16 may be required for axon formation during neurogenesis. Involved in the control of the learned and innate fear. Stathmin's role in regulation of the cell cycle causes it to be an oncoprotein named oncoprotein 18 (op18). Stathmin (aka op18) can cause uncontrolled cell proliferation when mutated and not functioning properly. If stathmin is unable to bind to tubulin, it allows for constant microtubule assembly and therefore constant mitotic spindle assembly. With no regulation of the mitotic spindle, the cell cycle is capable of cycling uncontrollably resulting in the unregulated cell growth characteristic of cancer cells.

Immunogen: Synthetic peptide within Human Stathmin 1 aa 100-149 / 149.

Positive control: MG-63, A431, Hela, Human tonsil tissue, human colon cancer tissue, human breast cancer tissue.

Subcellular location: Cytoskeleton, Cytoplasm, Microtubule.

Database links: SwissProt: P16949 Human

Recommended Dilutions:

WB	1:500
IF-Cell	1:100
IHC-P	1:50-1:200
FC	1:50-1:100

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

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

Purity: Protein G affinity purified.

Images

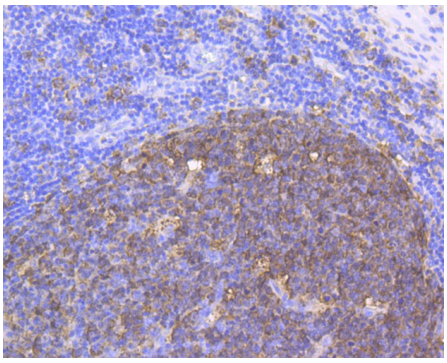

Fig1: Immunohistochemical analysis of paraffin-embedded human tonsil tissue using anti-Stathmin 1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (EM1801-19) at 1/200 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chrogen. Counter stained with hematoxylin and mounted with DPX.

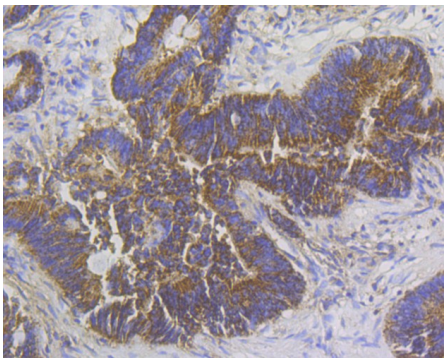

Fig2: Immunohistochemical analysis of paraffin-embedded human colon tissue using anti-Stathmin 1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (EM1801-19) at 1/200 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chrogen. Counter stained with hematoxylin and mounted with DPX.

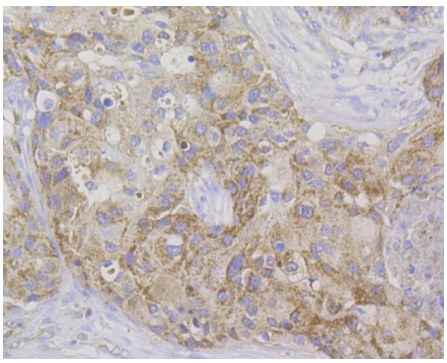

Fig3: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue using anti-Stathmin 1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (EM1801-19) at 1/200 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chrogen. Counter stained with hematoxylin and mounted with DPX.

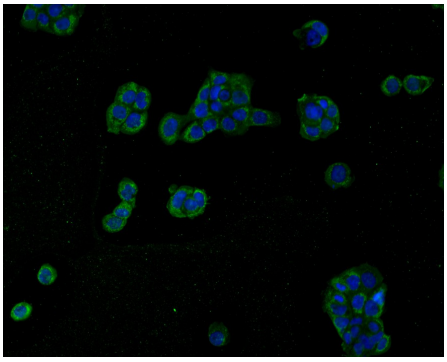

Fig4: Immunocytochemistry analysis of A431 cells labeling Stathmin 1 with Mouse anti-Stathmin 1 antibody (EM1801-19) at 1/50 dilution.

Cells were fixed in 4% paraformaldehyde for 30 minutes, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes, and then blocked with 2% BSA for 30 minutes at room temperature. Cells were then incubated with Mouse anti-Stathmin 1 antibody (EM1801-19) at 1/50 dilution in 2% BSA overnight at 4 ℃. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) was used as the secondary antibody at 1/1,000 dilution. Nuclear DNA was labelled in blue with DAPI.

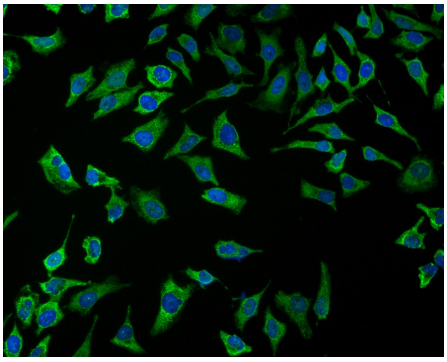

Fig5: Immunocytochemistry analysis of Hela cells labeling Stathmin 1 with Mouse anti-Stathmin 1 antibody (EM1801-19) at 1/50 dilution.

Cells were fixed in 4% paraformaldehyde for 30 minutes, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes, and then blocked with 2% BSA for 30 minutes at room temperature. Cells were then incubated with Mouse anti-Stathmin 1 antibody (EM1801-19) at 1/50 dilution in 2% BSA overnight at 4 ℃. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) was used as the secondary antibody at 1/1,000 dilution. Nuclear DNA was labelled in blue with DAPI.

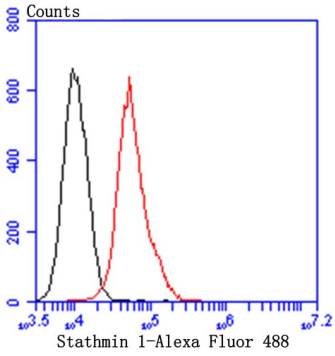

Fig6: Flow cytometric analysis of Stathmin 1 was done on MG-63 cells. The cells were fixed, permeabilized and stained with Ki67 antibody at 1/100 dilution (red) compared with an unlabelled control (cells without incubation with primary antibody; black). After incubation of the primary antibody on room temperature for an hour, the cells was stained with a Alexa Fluor™ 488-conjugated goat anti-mouse IgG Secondary antibody at 1/500 dilution.

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

Background References

1. Cassimeris L. The oncoprotein 18/stathmin family of microtubule destabilizers. Curr Opin Cell Biol. 2002 Feb;14(1):18-24.
2. Rubin CI and Atweh GF. The role of stathmin in the regulation of the cell cycle. J Cell Biochem. 2004 Oct 1;93(2):242-50.