

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Synaptophysin in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 959904
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Synaptophysin Glu50-Phe106 Accession # P08247
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

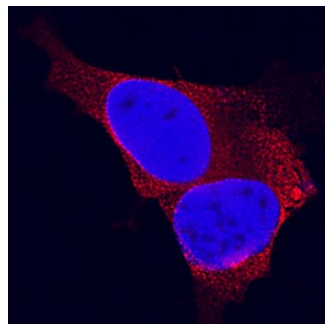
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Immunocytochemistry</b>	5-25 µg/mL	See Below
<b>Immunohistochemistry</b>	5-25 µg/mL	See Below

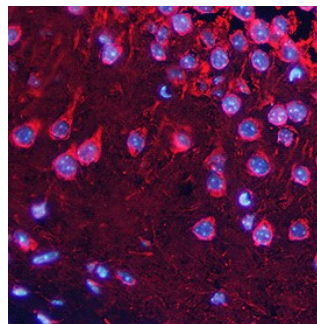
## DATA

### Immunocytochemistry



**Synaptophysin in SH-SY5Y Human Cell Line.** Synaptophysin was detected in immersion fixed SH-SY5Y human neuroblastoma cell line using Mouse Anti-Human Synaptophysin Monoclonal Antibody (Catalog # MAB5555) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

### Immunohistochemistry



**Synaptophysin in Mouse Brain.** Synaptophysin was detected in perfusion fixed frozen sections of mouse brain (hippocampus) using Mouse Anti-Human Synaptophysin Monoclonal Antibody (Catalog # MAB5555) at 15 µg/mL overnight at 4 °C. Tissue was stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm and nuclei. View our protocol for [Fluorescent IHC Staining of Frozen Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Synaptophysin (also p38 and BM89 in mouse) is a 38-40 kDa member of the synaptophysin/synaptobrevin family of proteins. It is expressed in neurons, and interacts with VAMP2 at an early stage of vesicle formation, guiding VAMP2 placement into secretory vesicles that are destined for release upon stimulation. Human Synaptophysin is a four transmembrane protein that is 313 amino acids (aa) in length. It contains two luminal domains (aa 50-106 and 162-199) and a cytoplasmic C-terminal targeting region that specifies its localization (aa 214-313). Synaptophysin forms homodimers and oligomers, and heterodimerizes with VAMP2. There is one isoform variant that shows a six aa substitution for aa 35-313. Over aa 50-106, human Synaptophysin shares 89% aa identity with mouse Synaptophysin.