

## DESCRIPTION

<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human, mouse, and rat Syntaxin 1A in Western blots and detects recombinant human Syntaxin 1A in direct ELISAs. In direct ELISAs, approximately 10% cross-reactivity with recombinant human Syntaxin 1B2 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Syntaxin 1A Met1-Leu165 Accession # Q16623
<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.

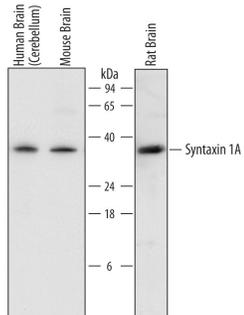
## APPLICATIONS

**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.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.2 µg/mL	See Below
<b>Immunocytochemistry</b>	5-15 µg/mL	See Below

## DATA

**Western Blot**



**Detection of Human, Mouse, and Rat Syntaxin 1A by Western Blot.** Western blot shows lysates of human brain (cerebellum) tissue, mouse brain tissue, and rat brain tissue. PVDF membrane was probed with 0.2 µg/mL of Goat Anti-Human/Mouse/Rat Syntaxin 1A Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7237) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Syntaxin 1A at approximately 35 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**Immunocytochemistry**



**Syntaxin 1A in SH-SY5Y Human Cell Line.** SH-SY5Y human neuroblastoma cells were cultured overnight in the presence of 1 mM Retinoic Acid (Catalog # 0695/50) prior to immersion fixation. Syntaxin 1A was detected using a Goat Anti-Human/Mouse/Rat Syntaxin 1A Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7237). The cells were stained with the NorthernLights 557-conjugated Donkey Anti-Goat IgG Affinity-purified Secondary Antibody (red; Catalog # NL001). Actin filaments were stained with FITC-conjugated Phalloidin (green) and the cell nuclei were counterstained with DAPI (blue). Syntaxin 1A immunoreactivity was localized to synaptic vesicles. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.2 mg/mL.
<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

STX1A (Syntaxin [Greek for 'organizing']1A; also HPC-1) is a 34-36 kDa member of the syntaxin family of proteins. It is a t-SNARE that is widely expressed in neurons, and is involved in the exocytosis of neurotransmitters at the presynaptic membrane. STX1A is transported intracellularly by microtubule-associated syntabulin, and its availability appears to be regulated through binding to LGI3. When released from LGI3, STX1A interacts with SNAP25 and VAMP2 to form the SNARE complex involved in exocytotic vesicle release. Human STX1A is a type IV single-pass transmembrane protein (very long cytoplasmic N-terminus) that is 288 amino acids (aa) in length. It contains a 265 aa N-terminal cytoplasmic domain that contains one coiled-coil region (aa 68-109), a t-SNARE domain with a coiled-coil region (aa 192-254), and a C-terminal transmembrane sequence (aa 266-286). There are three potential isoform variants. One shows a 34 aa substitution for aa 227-288, while another termed STX1C is likely soluble, and contains a 25 aa substitution for the same aa sequence above encompassing aa 227-288. A third variant shows a five aa substitution for aa 1-10. Over aa 1-165, human STX1A shares 99% aa sequence identity with mouse STX1A.