

SYT1/Synaptotagmin-1 Protein, Rat (Cell-Free, His)

Cat. No.:	HY-P702463
Synonyms:	Synaptotagmin-1; Synaptotagmin I; Sytl; p65
Species:	Rat
Source:	E. coli Cell-free
Accession:	P21707 (M1-K421)
Gene ID:	25716
Molecular Weight:	53.5 kDa

PROPERTIES

AA Sequence	<pre> M V S A S H P E A L A A P V T T V A T L V P H N A T E P A S P G E G K E D A F S K L K Q K F M N E L H K I P L P P W A L I A I A I V A V L L V V T C C F C V C K K C L F K K K N K K K G K E K G G K N A I N M K D V K D L G K T M K D Q A L K D D D A E T G L T D G E E K E E P K E E E K L G K L Q Y S L D Y D F Q N N Q L L V G I I Q A A E L P A L D M G G T S D P Y V K V F L L P D K K K K F E T K V H R K T L N P V F N E Q F T F K V P Y S E L G G K T L V M A V Y D F D R F S K H D I I G E F K V P M N T V D F G H V T E E W R D L Q S A E K E E Q E K L G D I C F S L R Y V P T A G K L T V V I L E A K N L K K M D V G G L S D P Y V K I H L M Q N G K R L K K K K T T I K K N T L N P Y Y N E S F S F E V P F E Q I Q K V Q V V V T V L D Y D K I G K N D A I G K V F V G Y N S T G A E L R H W S D M L A N P R R P I A Q W H T L Q V E E E V D A M L A V K K </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add 5-50% of glycerol (final concentration). Our default final concentration of glycerol is 50%. Customers could use it as reference.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

SYT1, also known as Synaptotagmin-1, functions as a calcium sensor crucial for initiating neurotransmitter release at the synapse. It may play a regulatory role in membrane interactions during the trafficking of synaptic vesicles at the active zone. SYT1 exhibits a specificity in binding acidic phospholipids, requiring the presence of both an acidic head group and a diacyl backbone. In addition to its Ca(2+)-dependent interaction with putative receptors for activated protein kinase C, SYT1 can bind to neurexins, syntaxin, and AP2 in a Ca(2+)-independent manner. The protein also contributes to dendrite formation by melanocytes and serves as a receptor for C. botulinum neurotoxin type B (BoNT/B), with interaction improvement in the presence of gangliosides. BoNT/B toxin specifically binds to the membrane-proximal vesicular domain of SYT1, emphasizing its role in microbial infection and toxin response.

Caution: Product has not been fully validated for medical applications. For research use only.

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