

## SYT12/Synaptotagmin-12 Protein, Rat (Cell-Free, His)

<b>Cat. No.:</b>	HY-P702464
<b>Synonyms:</b>	Synaptotagmin-12; Synaptotagmin XII; SytXII; Synaptotagmin-related gene 1 protein; Srg1
<b>Species:</b>	Rat
<b>Source:</b>	E. coli Cell-free
<b>Accession:</b>	P97610 (M1-N421)
<b>Gene ID:</b>	191595
<b>Molecular Weight:</b>	50.7 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> MAVDVTEYHL   SVIKSPPGWE   VGVYAAGALA   LLGIAAVSLW KLWTS GSFPS   P S P F P N Y D Y R   Y L Q Q K Y G E A Y   V E A K L K R V P P WNAQR T T T R G   P P S R K G S L S I   E D T F E S I S E L   G P L E L M G R E L D L A P Y G T L R K   S Q S A D S L N S I   S S V S N T F G Q D   F T L G Q V E V S M D Y D G A S H T L H   V A V L Q G K D L L   E R E E A T F E S C   F M R V S L L P D E Q I V G I S R I Q R   N A Y S I F F D E K   F S V P L D P T A L   E E K S L R F S V F G I D E D E R N V S   T G V V E L K L S V   L D L P L Q P F S G   W L Y L Q D Q N K A A D A V G E I L L S   L S Y L P T A E R L   T V V V V K A K N L   I W T N D K T T A D P F V K V Y L L Q D   G R K M S K K K T A   V K R D D P N P V F   N E A M I F S V P A I V L Q D L S L R V   T V A E S S S D G R   G D N V G H V I I G   P G A S G M G T T H W N Q M L A T L R R   P V S M W H P V R R   N </pre>
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.22 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> 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.
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

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**Background**

The SYT12/Synaptotagmin-12 protein emerges as a distinctive synaptic vesicle phosphoprotein that plays a pivotal role in enhancing spontaneous neurotransmitter release while having no impact on induced neurotransmitter release. Unlike other synaptotagmins, SYT12 does not bind Ca(2+) or phospholipids, setting it apart in its functional characteristics. Notably, it proves essential for mossy-fiber long-term potentiation in the hippocampus, underscoring its specific involvement in synaptic plasticity processes. Functionally, SYT12 operates as a homodimer and can also form heterodimers, adding to its dynamic role in vesicle regulation. Moreover, it interacts with SYT1, further highlighting its intricate involvement in synaptic mechanisms and suggesting potential crosstalk between different synaptotagmin isoforms in neurotransmitter release dynamics.

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

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