



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sia.com
sigma-aldrich.com

Product Information

Monoclonal Anti-Syntaxin 6

Clone 3D10

Purified Mouse Immunoglobulin

Product Number **S 9067**

Product Description

Monoclonal Anti-Syntaxin 6 (mouse IgG1 isotype) is derived from the 3D10 hybridoma produced by the fusion of NS-1 mouse myeloma cells and splenocytes from BALB/c mice immunized with a Syntaxin 6-GST fusion protein.¹ The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Syntaxin 6 recognizes rat,¹ mouse, and human² Syntaxin 6 (approx. 29 kDa). The antibody may be used in various techniques such as immunoblotting, immunoprecipitation, immunocytochemistry, and ELISA.¹

Traffic between intracellular membrane compartments is largely mediated by vesicular transport. A high degree of specificity and complexity are exerted in the regulation of vesicle budding, docking, and fusion.

Different classes of proteins mediate these processes; among them are members of the vesicle-associated membrane protein (VAMP), syntaxin, and synaptosomal-associated protein of 25 kDa (SNAP-25) families. These proteins termed soluble N-ethylmaleimide-sensitive factor (NSF) attachment protein receptors (SNAREs) partially define the specificity of vesicle docking and fusion in the secretory pathway.¹ The SNAREs can be classified into four groups: R-SNAREs (VAMPs), Qb-SNAREs (SNAP-25, N-terminal), Qc-SNAREs (SNAP-25, C-terminal), and Qa-SNAREs (syntaxins).³

Syntaxin 6 was identified through its homology to the yeast SNARE Pep12p, a protein implicated in vacuole protein trafficking.¹ While Pep12p is considered to be a Qa-SNARE, Syntaxin 6 is classified as a Qc-SNARE due to its close homology with the C-terminal SNARE domain of SNAP-25.³ The syntaxin 6 gene encodes a protein of 255 amino acids. The protein is expressed in a variety of cell types with higher expression level in brain, lung, and kidney.³

The twenty closest C-terminal amino acids are hydrophobic and form a membrane anchor. Syntaxin 6 contains two regions known as H1 and H2 domains, which mediate interactions with other SNARE proteins. The H2 domain confers *trans*-Golgi localization.³ The protein is present mainly in the *trans*-Golgi network and participates in vesicular trafficking between the *trans*-Golgi network and endosomes or lysosomes.^{1,4} Syntaxin 6 interacts with the mammalian homologue of VPS45, a sec1-like protein implicated in golgi for prevacuolar compartment trafficking.^{1,4} Antibodies, which react specifically with the syntaxin 6 protein, are an essential tool for studying vesicle trafficking in the cell.

Reagent

Monoclonal Anti-Syntaxin is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

Store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of approximately 2 µg/ml is recommended using the S1 fraction of rat brain.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilution by titration.

References

1. Bock, J. B., et al., Mol. Biol. Cell, **8**, 1261-1271 (1997).
2. Martin, B., et al., Blood, **96**, 2574-2583 (2000).
3. Wendler, F., et al., Traffic, **2**, 606-611 (2001).
4. Misura, K. M., et al., Proc. Natl. Acad. Sci. USA, **99**, 9184-9189 (2002).

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