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Phospho-Thr202 Synaptotagmin Antibody
Affinity purified rabbit polyclonal antibody
Catalog # AN1026

Specification

Phospho-Thr202 Synaptotagmin Antibody - Product Information

Application	**WB, IHC**
Primary Accession	P21707
Reactivity	**Rat**
Predicted	**Bovine, Chicken, Human, Mouse, Monkey, Zebrafish**
Host	**Rabbit**
Clonality	**polyclonal**
Calculated MW	**60/62 KDa**

Phospho-Thr202 Synaptotagmin Antibody - Additional Information

Gene ID	**25716**
Gene Name	**SYT1**

Other Names
Synaptotagmin-1, Synaptotagmin I, SytI, p65, Syt1

Target/Specificity
Synthetic phospho-peptide corresponding to amino acid residues surrounding Thr202 conjugated to KLH.

Dilution
WB~~ 1:1000
IHC~~ 1:400

Format
Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns

Antibody Specificity
Specific for the ~60k - 62k synaptotagmin protein phosphorylated at Thr202. The immunolabeling is completely eliminated by λ-phosphatase treatment. In some lysates and/or various tissues, additional bands may be seen at ~ 45k, 75k and 150k.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Phospho-Thr202 Synaptotagmin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping
Blue Ice

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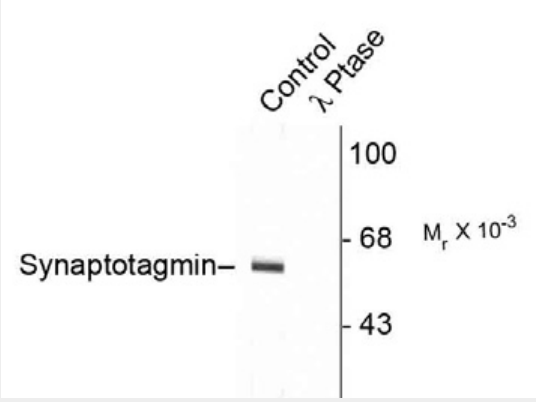
Phospho-Thr202 Synaptotagmin Antibody - Protocols

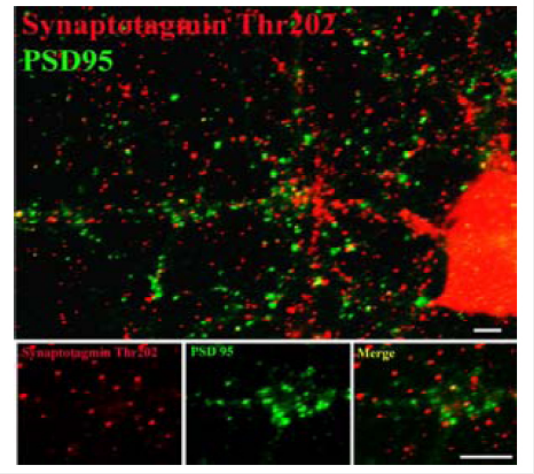
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Phospho-Thr202 Synaptotagmin Antibody - Images



Western blot of rat cortex lysate showing specific immunolabeling of the ~62k synaptotagmin phosphorylated at Thr202 (Control). Phosphospecificity is shown in the second lane (lambda-phosphatase: λ-Ptase). The blot is identical to the control except that it was incubated in λ-Ptase (1200 units for 30 min) before being exposed to the Thr202 synaptotagmin antibody. The immunolabeling is completely eliminated by treatment with λ-Ptase.



Immunostaining of 14 DIV rat cortical neurons showing synaptotagmin when phosphorylated at Thr202 in red and PSD95 in green.

Phospho-Thr202 Synaptotagmin Antibody - Background

Synaptotagmin is widely regarded as the primary calcium sensor for synaptic vesicle exocytosis (Fernandez-Chacon et al., 2001; Wang et al., 2003). Moreover, recent studies indicate that the protein also plays a key role in endocytosis (Poskanzer et al., 2003). Synaptotagmin can be phosphorylated by multiple protein kinases and this may play a key role in modulation of synaptotagmin's ability to influence both the exocytotic and endocytotic components of synaptic transmission (Hilfiker et al., 1999; Lee et al., 2004).

Phospho-Thr202 Synaptotagmin Antibody - References

Fernandez-Chacon R, Konigstorfer A, Gerber SH, Garcia J, Matos MF, Stevens CF, Brose N, Rizo J, Rosenmund C, Sudhof TC (2001) Synaptotagmin I functions as a calcium regulator of release probability. Nature (London) 410:41-49.
Hilfiker S, Pieribone VA, Nordstedt C, Greengard P, Czernik AJ (1999) Regulation of synaptotagmin I phosphorylation by multiple protein kinases. J Neurochem 73:921-932.
Lee BH, Min X, Heise CJ, Xu BE, Chen S, Shu H, Luby-Phelps K, Goldsmith EJ, Cobb MH (2004) WNK1 phosphorylates synaptotagmin 2 and modulates its membrane binding. Mol Cell 15:741-751.
Poskanzer KE, Marek KW, Sweeney ST, Davis GW (2003) Synaptotagmin I is necessary for compensatory synaptic vesicle endocytosis in vivo. Nature (London) 426:559-563.
Wang CT, Lu JC, Bai JH, Chang PY, Martin TFJ, Chapman ER, Jackson MB (2003) Different domains of synaptotagmin control the choice between kiss-and-run and full fusion. Nature (London) 424:943-947.