Revision 1

Store at -20C

#13920

# VAMP7 Antibody

Cell Signaling TECHNOLOGY®

**Orders:** 877-616-CELL (2355) orders@cellsignal.com

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**Web:** info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| W | H M R | Endogenous | 25 | Rabbit | #P51809 | 6845 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

## Specificity/Sensitivity

VAMP7 recognizes endogenous levels of total VAMP7 protein. This antibody cross-reacts with a protein of unknown origin at approximately 70 kDa.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala34 of human VAMP7 protein. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

Proteins in the soluble N-ethylmaleimide-sensitive factor attachment protein receptor (SNARE) complex are integral membrane proteins involved in vesicle transport and membrane fusion that pair vesicular SNAREs (v-SNAREs) with cognate target SNARE (t-SNARE) proteins (reviewed in 1,2). Vesicle-associated membrane protein 7 (VAMP7), or tetanus neurotoxin-insensitive VAMP (TI-VAMP), is a widely expressed v-SNARE involved in exocytosis of granules and synaptic vesicles in various cell types, membrane remodeling, neurite outgrowth, lysosomal secretion, and autophagosome maturation (3). Activity of VAMP7 can be regulated by c-Src-mediated tyrosine phosphorylation, which activates VAMP7-mediated exocytosis (4). VAMP7 activity can also be regulated through interaction with the guanine nucleotide exchange factor Varp (5,6). Several research studies indicate that VAMP7 plays an important role in neurite outgrowth as well as potential neurological activities, including anxiety (7-9). VAMP7 also appears to have a key role in T-cell activation by facilitating the recruitment of vesicular Lat to the immunological synapse (10). The VAMP7 protein interacts with ATG16L, a component of the ATG5-ATG12 complex, and regulates autophagosome maturation through homotypic fusion of ATG16L1 vesicles (11).

## Background References

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2. Kasai, H. et al. (2012) *Physiol Rev* 92, 1915-64.
3. Galli, T. et al. (1998) *Mol Biol Cell* 9, 1437-48.
4. Burgo, A. et al. (2013) *J Biol Chem* 288, 11960-72.
5. Burgo, A. et al. (2012) *Dev Cell* 23, 166-80.
6. Schäfer, I.B. et al. (2012) *Nat Struct Mol Biol* 19, 1300-9.
7. Martinez-Arca, S. et al. (2000) *J Cell Biol* 149, 889-900.
8. Alberts, P. et al. (2003) *Mol Biol Cell* 14, 4207-20.
9. Danglot, L. et al. (2012) *J Neurosci* 32, 1962-8.
10. Larghi, P. et al. (2013) *Nat Immunol* 14, 723-31.
11. Moreau, K. et al. (2011) *Cell* 146, 303-17.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting

## Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat

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