

**TMEM49/VMP1 Antibody**

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

**Support:** 877-678-TECH (8324)

**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	Endogenous	46	Rabbit	#Q96GC9	81671

**Product Usage Information****Application**

Western Blotting

**Dilution**

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**

TMEM49/VMP1 recognizes endogenous levels of total TMEM49/VMP1 protein.

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human TMEM49/VMP1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

**Background**

Vacuole membrane protein 1 (VMP1, TMEM49) is a transmembrane protein localized to intracellular vacuoles that was originally described as a protein promoting vacuole formation in acinar cells associated with acute pancreatitis (1). Over-expression of VMP1 promotes vacuole formation and subsequent cell death (1). Additional research studies demonstrated that VMP1 expression might be induced by starvation or the mTOR inhibitor rapamycin, which triggers autophagy (2). VMP1 is targeted along with LC3 to autophagosome membranes (2). Knockdown of VMP1 can inhibit autophagosome formation (2). VMP1 interacts with beclin-1, a key autophagy protein that activates the class III PI3 kinase Vps34 (3). VMP1 functions in the degradation and clearance of zymogen-containing vacuoles during experimentally induced pancreatitis (4). During vacuole degradation and clearance, VMP1 interacts with the ubiquitin protease USP9X, suggesting a possible functional link between the molecular machinery of autophagy and the ubiquitin pathway. Orthologs of VMP1 from *C. elegans* (known as EPG-3), *Drosophila* (known as TANGO-5), and *Dictyostelium*, have been shown to play a role in membrane trafficking, organelle organization, and autophagy (5-7).

**Background References**

1. Dusetti, N.J. et al. (2002) *Biochem Biophys Res Commun* 290, 641-9.
2. Ropolo, A. et al. (2007) *J Biol Chem* 282, 37124-33.
3. Kang, R. et al. (2011) *Cell Death Differ* 18, 571-80.
4. Grasso, D. et al. (2011) *J Biol Chem* 286, 8308-24.
5. Tian, Y. et al. (2010) *Cell* 141, 1042-55.
6. Bard, F. et al. (2006) *Nature* 439, 604-7.
7. Calvo-Garrido, J. et al. (2008) *Mol Biol Cell* 19, 3442-53.

**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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting

**Cross-Reactivity Key**

**H:** Human

**Trademarks and Patents**

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

**Limited Uses**

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.

**Orders: 877-616-CELL (2355) • [orders@cellsignal.com](mailto:orders@cellsignal.com) • Support: 877-678-TECH (8324) • [info@cellsignal.com](mailto:info@cellsignal.com) • Web: [cellsignal.com](http://cellsignal.com)**  
For Research Use Only. Not for Use in Diagnostic Procedures.