SANTA CRUZ BIOTECHNOLOGY, INC.

# plasmolipin (D-14): sc-51405

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*The Power to Question*

## BACKGROUND

Plasmolipin, also known as plasma membrane proteolipid, PLLP, PMLP or TM4SF11, is a 182 amino acid long protein that belongs to the tetraspan (4TM) myelin proteins. It is a member of the MAL family and contains a conserved MARVEL domain. Plasmolipin is a myelin stuctural protein and constitutes approximately 50% of myelin protein. It is found in kidney localizing to the apical surface of tubular epithelial cells and in brain localizing to myelinated tracts. Plasmolipin is involved in myelination and the formation of ion channels. The addition of plasmolipin to lipid bilayers stimulates the formation of voltage-dependent, $K^+$-selective ion channels. The expression of the gene encoding plasmolipin is down-regulated in patients with schizophrenia, in patients with a major depressive disorder and by long-term sleep deprivation.

## REFERENCES


1. Fischer, I., et al. 1994. Molecular cloning of plasmolipin. Characterization of a novel proteolipid restricted to brain and kidney. J. Biol. Chem. 269: 24912-24919.
2. Hamacher, M., et al. 2001. plasmolipin: genomic structure, chromosomal localization, protein expression pattern, and putative association with Bardet-Biedl syndrome. Mamm. Genome 12: 933-937.
3. Bosse, F., et al. 2003. Proteolipid plasmolipin: localization in polarized cells, regulated expression and lipid raft association in CNS and PNS myelin. J. Neurochem. 86: 508-518.
4. Aston, C., et al. 2004. Microarray analysis of postmortem temporal cortex from patients with schizophrenia. J. Neurosci. Res. 77: 858-866.


## CHROMOSOMAL LOCATION

Genetic locus: PLLP (human) mapping to 16q13; Pllp (mouse) mapping to 8 C5.

## SOURCE

plasmolipin (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Plasmolipin of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-51405 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

## APPLICATIONS

plasmolipin (D-14) is recommended for detection of plasmolipin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

plasmolipin (D-14) is also recommended for detection of plasmolipin in additional species, including equine and canine.

Suitable for use as control antibody for plasmolipin siRNA (h): sc-106418, plasmolipin siRNA (m): sc-152292, plasmolipin shRNA Plasmid (h): sc-106418-SH, plasmolipin shRNA Plasmid (m): sc-152292-SH, plasmolipin shRNA (h) Lentiviral Particles: sc-106418-V and plasmolipin shRNA (m) Lentiviral Particles: sc-152292-V.

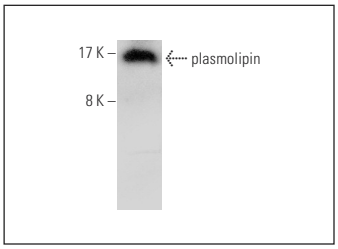
Molecular Weight of plasmolipin: 20 kDa.

Positive Controls: mouse brain extract: sc-2253 or plasmolipin (m): 293T Lysate: sc-122620.

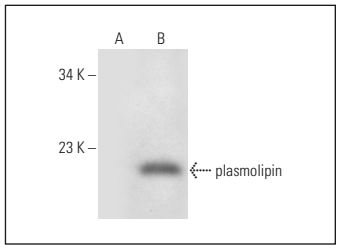
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA




plasmolipin (D-14): sc-51405. Western blot analysis of plasmolipin expression in mouse brain tissue extract.




plasmolipin (D-14): sc-51405. Western blot analysis of plasmolipin expression in non-transfected: sc-117752 (**A**) and mouse plasmolipin transfected: sc-122620 (**B**) 293T whole cell lysates.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.