

[32167471](http://www.uniprot.org/citations/32167471) PubMed: [31825310](http://www.uniprot.org/citations/31825310) PubMed: [23063126](http://www.uniprot.org/citations/23063126) PubMed: [24776928](http://www.uniprot.org/citations/24776928) PubMed: [23394946](http://www.uniprot.org/citations/23394946) PubMed: [24502975](http://www.uniprot.org/citations/24502975)). Localizes to the lysosomal and late endosome membranes where it regulates organellar membrane excitability, membrane trafficking, and pH homeostasis. Is associated with a plethora of physiological processes, including mTOR- dependent nutrient sensing, skin pigmentation and autophagy (PubMed: [32167471](http://www.uniprot.org/citations/32167471) target="_blank">32167471 PubMed: [23394946](http://www.uniprot.org/citations/23394946) target="_blank">23394946 PubMed: [18488028](http://www.uniprot.org/citations/18488028) target="_blank">18488028). Ion selectivity is not fixed but rather agonist-dependent and under defined ionic conditions, can be readily activated by both NAADP and PI(3,5)P2 (PubMed: [31825310](http://www.uniprot.org/citations/31825310) target="_blank">31825310 PubMed: [32167471](http://www.uniprot.org/citations/32167471) target="_blank">32167471 PubMed: [24502975](http://www.uniprot.org/citations/24502975) target="_blank">24502975). As calcium channel, it increases the pH in the lysosomal lumen, as sodium channel, it promotes lysosomal exocytosis (PubMed: [31825310](http://www.uniprot.org/citations/31825310) target="_blank">31825310 PubMed: [32167471](http://www.uniprot.org/citations/32167471) target="_blank">32167471). Plays a crucial role in endolysosomal trafficking in the endolysosomal degradation pathway and is potentially involved in the homeostatic control of many macromolecules and cell metabolites (By similarity) (PubMed: [18488028](http://www.uniprot.org/citations/18488028) target="_blank">18488028 PubMed: [19387438](http://www.uniprot.org/citations/19387438) target="_blank">19387438 PubMed: [19620632](http://www.uniprot.org/citations/19620632) target="_blank">19620632 PubMed: [20880839](http://www.uniprot.org/citations/20880839) target="_blank">20880839 PubMed: [23063126](http://www.uniprot.org/citations/23063126) target="_blank">23063126 PubMed: [23394946](http://www.uniprot.org/citations/23394946) target="_blank">23394946 PubMed: [24502975](http://www.uniprot.org/citations/24502975) target="_blank">24502975 PubMed: [24776928](http://www.uniprot.org/citations/24776928) target="_blank">24776928 PubMed: [31825310](http://www.uniprot.org/citations/31825310) target="_blank">31825310 PubMed: [32167471](http://www.uniprot.org/citations/32167471) target="_blank">32167471 PubMed: [32679067](http://www.uniprot.org/citations/32679067) target="_blank">32679067). Also expressed in melanosomes of pigmented cells where mediates a Ca(2+) channel and/or PI(3,5)P2-activated melanosomal Na(+) channel to acidify pH and inhibit tyrosinase activity required for melanogenesis and pigmentation (PubMed: [27140606](http://www.uniprot.org/citations/27140606) target="_blank">27140606). Unlike the voltage-dependent TPCN1, TPCN2 is voltage independent and can be activated solely by PI(3,5)P2 binding. In contrast, PI(4,5)P2, PI(3,4)P2, PI(3)P and PI(5)P have no obvious effect on channel activation (PubMed: [30860481](http://www.uniprot.org/citations/30860481) target="_blank">30860481).

Cellular Location

Late endosome membrane; Multi-pass membrane protein. Lysosome membrane; Multi-pass membrane protein. Melanosome membrane; Multi-pass membrane protein

Tissue Location

Widely expressed. Expressed at high level in liver and kidney.

TPCN2 Antibody (C-Term) - Protocols

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

- [Western Blot](#)

- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

TPCN2 Antibody (C-Term) - Images**TPCN2 Antibody (C-Term) - References**

NAADP mobilizes calcium from acidic organelles through two-pore channels. Calcraft PJ, Ruas M, Pan Z, Cheng X, Arredouani A, Hao X, Tang J, Rietdorf K, Teboul L, Chuang KT, Lin P, Xiao R, Wang C, Zhu Y, Lin Y, Wyatt CN, Parrington J, Ma J, Evans AM, Galione A, Zhu MX. Nature 2009 May 459 (7246): 596-600. PMID: 19387438