

TPCN2 Antibody (C-Term)
Peptide-affinity purified goat antibody
Catalog # AF3011a

Specification

TPCN2 Antibody (C-Term) - Product Information

Application	E
Primary Accession	O8NHX9
Other Accession	NP_620714.2 , 219931
Predicted	Human
Host	Goat
Clonality	Polyclonal
Concentration	0.5 mg/ml
Isotype	IgG
Calculated MW	85243

TPCN2 Antibody (C-Term) - Additional Information

Gene ID 219931

Other Names

Two pore calcium channel protein 2, Voltage-dependent calcium channel protein TPC2, TPCN2, TPC2

Format

0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage

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

TPCN2 Antibody (C-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

TPCN2 Antibody (C-Term) - Protein Information

Name TPCN2 ([HGNC:20820](#))

Function

Intracellular channel initially characterized as a non- selective Ca(2+)-permeable channel activated by NAADP (nicotinic acid adenine dinucleotide phosphate), it is also a highly-selective Na(+) channel activated directly by PI(3,5)P2 (phosphatidylinositol 3,5- bisphosphate) (PubMed:19387438, PubMed:19620632, PubMed:20880839, PubMed:30860481, PubMed:<a

[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 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 Ca²⁺ 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