10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-ZNT1 Antibody

Catalog # AP53375

Product Information

Application	WB, IHC
Primary Accession	Q9Y6M5
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	55300

Additional Information

Gene ID	7779
Other Names	ZNT1; Zinc transporter 1; ZnT-1; Solute carrier family 30 member 1
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human ZNT1. The exact sequence is proprietary.
Dilution	WB~~ 1:500 IHC~~1:100~500
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	SLC30A1 (HGNC:11012)
Function	Zinc ion:proton antiporter that could function at the plasma membrane mediating zinc efflux from cells against its electrochemical gradient protecting them from intracellular zinc accumulation and toxicity (PubMed:31471319, PubMed:33996761, PubMed:39422023, PubMed:39111308, PubMed:39390258). Alternatively, could prevent the transport to the plasma membrane of CACNB2, the L-type calcium channels regulatory subunit, through a yet to be defined mechanism. By modulating the expression of these channels at the plasma membrane, could prevent calcium and zinc influx into cells. By the same mechanism, could also prevent L-type calcium channels-mediated heavy metal influx into cells (By similarity). In some cells, could also function as a zinc ion:proton antiporter mediating zinc entry into the lumen of cytoplasmic vesicles. In macrophages, can increase zinc ions concentration into the lumen of cytoplasmic vesicles containing engulfed bacteria and could help inactivate them (PubMed:32441444). Forms a complex with TMC6/EVER1 and TMC8/EVER2 at the ER membrane of keratynocytes which facilitates zinc uptake into the ER (PubMed:18158319).

Down-regulates the activity of transcription factors induced by zinc and cytokines (PubMed:18158319). Also functions as a copper transporter, facilitating the entry of copper into cells, which is crucial for copper-induced cell death (cuproptosis) (PubMed:39111308). Acts as a Zn(2+)/Ca(2+) exchanger, exporting zinc in exchange for calcium influx (PubMed:38669333).

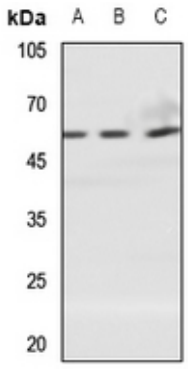
Cellular Location

Cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein. Cytoplasmic vesicle membrane; Multi-pass membrane protein. Cytoplasm. Endoplasmic reticulum membrane; Multi-pass membrane protein. Golgi apparatus membrane; Multi-pass membrane protein. Nucleus membrane; Multi-pass membrane protein. Postsynaptic density {ECO:0000250|UniProtKB:Q60738} Note=Localization to the plasma membrane is regulated by cellular zinc status. Recruitment to the plasma membrane from an internal pool is stimulated by zinc while in absence of zinc the plasma membrane pool is endocytosed and degraded (PubMed:31471319). Localizes to the basolateral surface of enterocytes (By similarity). Localizes to zinc- containing intracellular vesicles in macrophages (PubMed:32441444) Localizes in the cytoplasm and to the ER, Golgi and nucleus membranes in keratinocytes (PubMed:18158319). {ECO:0000250|UniProtKB:Q62720, ECO:0000269|PubMed:18158319, ECO:0000269|PubMed:31471319, ECO:0000269|PubMed:32441444}

References

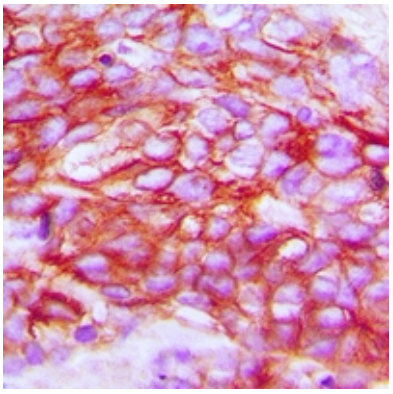
Nanji M.S.,et al.Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
Goshima N.,et al.Submitted (JUL-2008) to the EMBL/GenBank/DDBJ databases.
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Inoue H.,et al.Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
Olsen J.V.,et al.Cell 127:635-648(2006).

Images



Western blot analysis of ZNT1 expression in mouse lung (A), rat liver (B), rat muscle (C) whole cell lysates. (Predicted band size: 55 kD; Observed band size: 55 kD)

Immunohistochemical analysis of ZNT1 staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.