

## Product datasheet for **TA328917**

### Slc8a3 Rabbit Polyclonal Antibody

#### Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)PLEGKEVDESRRE, corresponding to amino acid residues 303- 315 of rat NCX-3 . 3rd intracellular loop
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN3.
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	solute carrier family 8 member A3
Database Link:	<a href="#">NP_511175</a> <a href="#">Entrez Gene 6547 Human</a> <a href="#">Entrez Gene 110893 Mouse</a> <a href="#">Entrez Gene 140448 Rat</a> <a href="#">P70549</a>



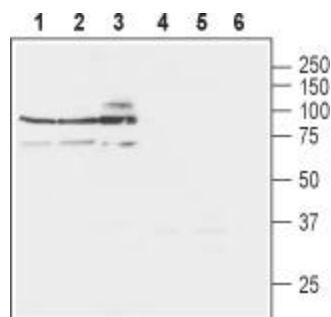
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**Background:**

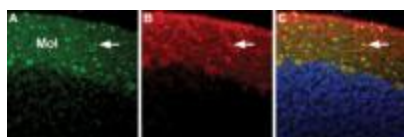
Ca<sup>2+</sup> has proven to be a universal signaling molecule in excitable and non-excitable cells. However, being that its intracellular concentration is 1000 times lower than the extracellular milieu, it is important for the cell to keep this ratio for proper function. NCX, a Na<sup>+</sup>/Ca<sup>2+</sup> exchanger, is responsible for most of the efflux of Ca<sup>2+</sup> out from the cell<sup>1-3</sup>. The NCX transporter is a member of the SLC8 family of solute carriers which in turn belong to the CaCA superfamily. NCX-1 is one of three Na<sup>+</sup>/Ca<sup>2+</sup> exchangers (NCX-1, NCX-2, NCX-3) leading to one Ca<sup>2+</sup> movement across the plasma membrane in exchange of three Na<sup>+</sup> influx. However, the transporter can reverse the direction of the transport if the concentrations of Na<sup>+</sup> and Ca<sup>2+</sup> change<sup>6</sup>. The transporter has nine transmembrane domains and intracellular N- and C-terminals. Between transmembrane domains 5 and 6, the presence of an extra-long intracellular loop, termed the f loop is responsible for regulating the activity of NCX-1 via several different mechanisms like ion binding, phosphorylation, etc. The f loop also has sites which undergo alternative splicing. Of the three NCX-1 expressed in mammalian cells, NCX-1 is the most widely expressed. Its expression is detected in the heart, brain, and kidney. NCX-1 undergoes alternative splicing in a tissue dependent manner. The first splice region does not change the overall structure of the protein but rather enables the expression of the gene specific to the tissues which require the expression of the gene. The second splicing site leads to a number of proteins varying in length. NCX-2 expression is much more limited; it is expressed only in neurons. NCX-3 is expressed in skeletal muscle and in some regions of the brain and undergoes alternative splicing in a similar fashion to that of NCX-1. Due to their central role in modulating Ca<sup>2+</sup> levels in the cell, NCX exchangers are involved in various pathophysiological diseases/disorders such as hypoxia, aging, Alzheimer's, to name a few.

**Synonyms:**

NCX3

**Product images:**


Western blot analysis of rat brain lysates (lanes 1 and 4), mouse brain lysates (lanes 2 and 5) and human SH-SY5Y neuroblastoma cell lysates (lanes 3 and 6): 1-3. Anti-Na<sup>+</sup>/Ca<sup>2+</sup> Exchanger 3 (NCX-3) antibody, (1:200). 4-6. Anti-Na<sup>+</sup>/Ca<sup>2+</sup> Exchanger 3 (NCX-3) antibody, preincubated with the control peptide antigen.



IHC staining of rat brain sections using Anti-Na<sup>+</sup>/Ca<sup>2+</sup> Exchanger 3 (NCX-3) antibody, 1:100. A. NCX-3 staining (green) is expressed mostly in molecular layer (Mol) interneurons (arrow). B. The same section, stained with Parvalbumin (Red). C. Merge of A and B demonstrates that NCX-3 appears to be expressed in several GABAergic neurons in the molecular layer of which Parvalbumin positive cells are only one sub-group (see arrow). DAPI counterstain (blue) displays the layout of cerebellar layers.