

## Product datasheet for **TA328916**

### Slc8a2 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)RVGDAQGMFEPDGG, corresponding to amino acid residues 486-499 of rat NCX-2. 3rd <sup>rd</sup> 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% NaN <sub>3</sub> .
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 A2
Database Link:	<a href="#">NP_511174</a> <a href="#">Entrez Gene 6543 Human</a> <a href="#">Entrez Gene 110891 Mouse</a> <a href="#">Entrez Gene 140447 Rat</a> <a href="#">P48768</a>



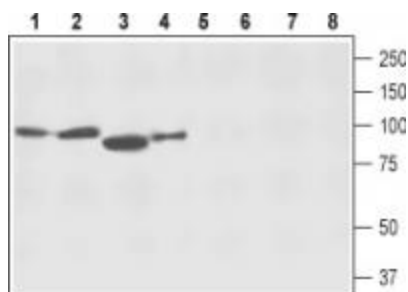
[View online »](#)

**Background:**

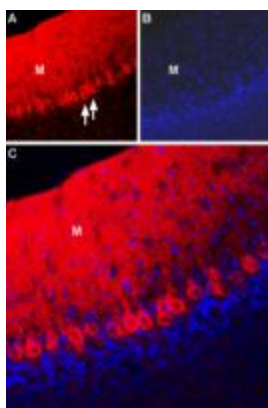
Ca<sup>2+</sup> has proven to be a universal signaling molecule in excitable and non-excitable cells. However, being that its intracellular concentration is 1000 time lower than the extracellular milieu, it is important for the cell to keep this ratio for proper function. NCX, a Na<sup>+</sup>/Ca<sup>2+</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<sup>7</sup>, to name a few.

**Synonyms:**

KIAA1087; NCX2

**Product images:**

Western blot analysis of rat brain membranes (lanes 1 and 5), mouse brain membranes (lanes 2 and 6), rat skeletal muscle lysate (lanes 3 and 7) and human SH-SY5Y neuroblastoma cell lysate (lanes 4 and 8): 1- 4. Anti-Na<sup>+</sup>/Ca<sup>2+</sup> Exchanger 2 (NCX-2) antibody, (1:200). 5- 8. Anti-Na<sup>+</sup>/Ca<sup>2+</sup> Exchanger 2 (NCX-2) antibody, preincubated with the control peptide antigen.



Expression of NCX2 in rat cerebellum. Immunohistochemical staining of immersion-fixed, free floating rat brain frozen sections using Anti-Na<sup>+</sup>/Ca<sup>2+</sup> Exchanger 2 (NCX-2) antibody, (1:100). A. NCX2 staining (red) is expressed in the molecular layer (M) and Purkinje cells (arrows). B. DAPI counterstain (blue) displays the layout of cerebellar layers. C. Merge of A and B demonstrates restriction of NCX2 expression to the molecular layer and Purkinje cells.