

NBC1/SLC4A4 Antibody

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M Mk	Endogenous	135-145	Rabbit	#Q9Y6R1	8671

Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

NBC1/SLC4A4 Antibody recognizes endogenous levels of total NBC1 protein. This antibody also cross-reacts with 42 and 62 kDa proteins of unknown origin in some cell lines.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human NBC1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

NBC1/SLC4A4 is an electrogenic sodium bicarbonate cotransporter. It mediates the coupled movement of Na⁺ and HCO₃⁻ ions across the basolateral membrane of cells. NBC1 regulates secretion and absorption of bicarbonate and modulates intracellular pH (1-3). There are five isoforms of NBC1 produced by alternative splicing including the most studied isoforms, 1 and 2, which have different N termini. The N terminus of isoform 1 contains multiple consensus phosphorylation sites for various kinases, such as PKA, PKC, and CK II, and may play a regulatory role in the biological function of NBC1 (4). Interaction with carbonic anhydrase II, IV, and IX regulates the transporter activity of NBC1 (5-7). NBC1 is expressed in various tissues with the exception of isoform 2, which is mainly expressed in kidney proximal tubules (1). Isoform 1 is expressed in the pancreas and corneal endothelium, and at low levels in other tissues including heart, skeletal muscle, liver, and prostate (4). Research studies have shown that mutations in the NBC1 gene are linked to proximal renal tubular acidosis with ocular abnormalities (also known as renal tubular acidosis II).

Background References

1. Burnham, C.E. et al. (1997) *J Biol Chem* 272, 19111-4.
2. Amlal, H. et al. (1998) *J Biol Chem* 273, 16810-5.
3. Choi, I. et al. (1999) *Am J Physiol* 276, C576-84.
4. Abuladze, N. et al. (1998) *J Biol Chem* 273, 17689-95.
5. Alvarez, B.V. et al. (2003) *Biochemistry* 42, 12321-9.
6. Loiselle, F.B. et al. (2004) *Am J Physiol Cell Physiol* 286, C1423-33.
7. Svastova, E. et al. (2012) *J Biol Chem* 287, 3392-402.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **Mk:** Monkey

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