

Datasheet for ABIN7581985  
**anti-SLC9A4 antibody (Intracellular)**



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## Overview

Quantity:	50 µL
Target:	SLC9A4
Binding Specificity:	AA 576-590, Intracellular
Reactivity:	Mouse
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This SLC9A4 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC)

## Product Details

Purpose:	A Rabbit Polyclonal Antibody to Na <sup>+</sup> /H <sup>+</sup> Exchanger 4 (NHE-4)
Immunogen:	(C)ERIQQIKRLSPEDVE, corresponding to amino acid residues 576 - 590 of mouse SLC9A4
Sequence:	(C)ERIQQIKRLS PEDVE
Isotype:	IgG
Specificity:	Intracellular, C-terminus.
Predicted Reactivity:	Rat - identical, Human - 14 out of 15 amino acid residues identical
Characteristics:	Anti-Na <sup>+</sup> /H <sup>+</sup> Exchanger 4 Antibody (ABIN7581985) is a highly specific antibody directed against an epitope of the mouse protein. The antibody can be used in western blot and immunohistochemistry applications. It has been designed to recognize from rat, mouse and human samples.

## Product Details

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Purification: Affinity purified on immobilized antigen.

## Target Details

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Target: SLC9A4

Alternative Name: SLC9A4 ([SLC9A4 Products](#))

Background: Sodium/Hydrogen Exchanger 4, NHE4, Solute carrier family 9 member 4, SLC9A4, NHE-4 also known as SLC9A4, belongs to the SLC9 gene family or sodium/hydrogen exchanger (NHE) family, that consists of membrane proteins that play a critical role in regulating intracellular pH, cell volume, and sodium concentration. Family members are involved in exchanging intracellular hydrogen ions (H<sup>+</sup>) for extracellular sodium ions (Na<sup>+</sup>), which is essential for maintaining cellular homeostasis.<sup>1,2</sup> To date, nine genes comprising the SLC9 family have been identified in mammals: NHE-1 through NHE-9. The structure of SLC9 family members includes a short N-terminus, twelve transmembrane domains and an extensive C-terminus that plays a regulatory role.<sup>1-2</sup> The members of the SLC9A family, have distinct tissue distribution and physiological roles, including regulation of intracellular pH by extruding H<sup>+</sup> ions in exchange for Na<sup>+</sup> ions, thus helping to maintain the pH balance within cells, and the control of cell volume by modulating osmotic balance.<sup>1,2</sup> NHE-4 is expressed in the stomach, kidney, brain, uterus, and skeletal muscle. Many studies have focused on the role of NHE-4 in the secretion of gastric acid and ammonium reabsorption in the stomach and kidney.<sup>1-2</sup> In the kidney, NHE-4 is expressed in the basolateral membrane of the proximal tubule, but much more abundantly in the basolateral membrane of the thick ascending limb and distal convoluted tubules. By modulating Na<sup>+</sup>/H<sup>+</sup> exchange, NHE-4 helps in the regulation of cell volume in renal epithelial cells. This function is crucial for the cells to adapt to osmotic changes and maintain their structural integrity.<sup>3</sup> In the stomach, NHE-4 is abundantly expressed on the basolateral membrane of gastric parietal cells. Parietal cells are responsible for secreting hydrochloric acid (HCl), which is essential for digestion. NHE-4 helps in maintaining the intracellular pH of parietal cells by exchanging intracellular H<sup>+</sup> for extracellular Na<sup>+</sup>. Targeted disruption of NHE-4 in knockout mice, showed that NHE-4 is important for normal levels of gastric acid secretion and gastric epithelial cell differentiation.<sup>4</sup> In the brain, NHE-4 expression has been localized to the hippocampus and to brain structures involved in the regulation of body fluid homeostasis and water intake, like the sensory circumventricular organs (sCVOs) consisting of the subfornical organ (SFO), organum vasculosum of the lamina terminalis (OVLT), and area postrema (AP) in the brain.<sup>1-2,5</sup> CVOs are unique regions in the brain that lack a typical blood-brain barrier, allowing them to detect changes in blood composition and communicate these changes to other parts of the brain. NHE-4 functions as a sodium sensor in the OVLT that specifically

## Target Details

	detects increases in extracellular sodium concentration in body fluids, and plays a critical role in the regulation of water intake behaviour.5
Gene ID:	110895
UniProt:	<a href="#">Q8BUE1</a>

## Application Details

Application Notes:	Antigen preadsorption control: 1 µg peptide per 1 µg antibody Application Dilutions Immunohistochemistry paraffin embedded sections ihc: 1:200 Application Dilutions Western blot wb: 1:200-1:400
Restrictions:	For Research Use only

## Handling

Format:	Lyophilized
Reconstitution:	0.2 mL double distilled water (DDW).
Concentration:	1 mg/mL
Buffer:	PBS pH 7.4
Storage:	4 °C,-20 °C
Storage Comment:	Storage before reconstitution: The antibody ships as a lyophilized powder at room temperature. Upon arrival, it should be stored at -20°C. Storage after reconstitution: The reconstituted solution can be stored at 4°C for up to 1 week. For longer periods, small aliquots should be stored at -20°C. Avoid multiple freezing and thawing. Centrifuge all antibody preparations before use (10000 x g 5 min).