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SLC4A1 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP14828a

Specification

SLC4A1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession	P02730

SLC4A1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 6521

Other Names
Band 3 anion transport protein, Anion exchange protein 1, AE 1, Anion exchanger 1, Solute carrier family 4 member 1, CD233, SLC4A1, AE1, DI, EPB3

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

SLC4A1 Antibody (N-term) Blocking Peptide - Protein Information

Name SLC4A1 (HGNC:11027)

Synonyms AE1, DI, EPB3

Function
Functions both as a transporter that mediates electroneutral anion exchange across the cell membrane and as a structural protein (PubMed:35835865, PubMed:10926824, PubMed:14734552, PubMed:16227998, PubMed:24121512, PubMed:28387307, PubMed:1538405, PubMed:20151848). Component of the ankyrin-1 complex of the erythrocyte membrane; required for normal flexibility and stability of the erythrocyte membrane and for normal erythrocyte shape via the interactions of its cytoplasmic domain with cytoskeletal proteins, glycolytic enzymes, and hemoglobin (PubMed:35835865, PubMed:1538405, PubMed:<a

href="http://www.uniprot.org/citations/20151848" target="_blank">20151848). Functions as a transporter that mediates the 1:1 exchange of inorganic anions across the erythrocyte membrane. Mediates chloride-bicarbonate exchange in the kidney, and is required for normal acidification of the urine (PubMed:10926824, PubMed:14734552, PubMed:16227998, PubMed:24121512, PubMed:28387307).

Cellular Location
Cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein. Note=Detected in the erythrocyte cell membrane and on the basolateral membrane of alpha-intercalated cells in the collecting duct in the kidney.

Tissue Location
Detected in erythrocytes (at protein level).

SLC4A1 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

SLC4A1 Antibody (N-term) Blocking Peptide - Images

SLC4A1 Antibody (N-term) Blocking Peptide - Background

The protein encoded by this gene is part of the anionexchanger (AE) family and is expressed in the erythrocyte plasmamembrane, where it functions as a chloride/bicarbonate exchangerinvolved in carbon dioxide transport from tissues to lungs. Theprotein comprises two domains that are structurally andfunctionally distinct. The N-terminal 40kDa domain is located inthe cytoplasm and acts as an attachment site for the red cellskeleton by binding ankyrin. The glycosylated C-terminalmembrane-associated domain contains 12-14 membrane spanningsegments and carries out the stilbene disulphonate-sensitiveexchange transport of anions. The cytoplasmic tail at the extremeC-terminus of the membrane domain binds carbonic anhydrase II. Theencoded protein associates with the red cell membrane proteinglycophorin A and this association promotes the correct folding andtranslocation of the exchanger. This protein is predominantlydimeric but forms tetramers in the presence of ankyrin. Manymutations in this gene are known in man, and these mutations canlead to two types of disease: destabilization of red cell membraneleading to hereditary spherocytosis, and defective kidney acidsecretion leading to distal renal tubular acidosis. Other mutationsthat do not give rise to disease result in novel blood groupantigens, which form the Diego blood group system. Southeast Asianovalocytosis (SAO, Melanesian ovalocytosis) results from theheterozygous presence of a deletion in the encoded protein and iscommon in areas where Plasmodium falciparum malaria is endemic. Onenull mutation in this gene is known, resulting in very severeanemia and nephrocalcinosis.

SLC4A1 Antibody (N-term) Blocking Peptide - References

Basu, A., et al. Biochemistry 49(43):9226-9240(2010)Sawasdee, N., et al. Biochem. Biophys. Res. Commun. 401(1):85-91(2010)Shmukler, B.E., et al. Am. J. Hematol. 85(10):824-828(2010)Novaretti, M.C., et al. Immunohematology 26(2):66-70(2010)Bruce, L.J., et al. Blood 101(10):4180-4188(2003)