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Product Information

MemDX™ Membrane Protein Human SLC4A1 (Solute carrier family 4 member 1 (Diego blood group)) Expressed in *E.coli* with 10xHis and SUMO tag at the N-terminus, Myc tag at the C-terminus for Antibody Discovery, Partial (1-403aa)

Cat. No.: **MPX4273K**
This product is for research use only and is not intended for diagnostic use.

This product is a 65.3kDa Human SLC4A1 membrane protein expressed in *E.coli*. The protein is for research use only and is not approved for use in humans or in clinical diagnosis.

Product Specifications

Host Species
Human

Target Protein
SLC4A1

Protein Length
Partial (1-403aa)

Protein Class
Transporter

Molecular Weight
65.3kDa

TMD
12

Sequence
MEELQDDYEDMMEENLEQEEYEDPDIPESQMEEPAAHDTEATATDYHTTSHPGTHKVYVELQELVMDEKNQELRWMEAARWVQ

Product Description

Expression Systems
E.coli

Tag
10xHis and SUMO tag at the N-terminus, Myc tag at the C-terminus

Protein Format
Soluble

Form

Liquid or Lyophilized powder

Purity

>90% as determined by SDS-PAGE

Buffer

Tris-based buffer, 50% glycerol

Storage

Aliquot and store at -20°C or lower. For long term storage, we recommend to store at -70°C or lower. Avoid freeze/thaw cycles.

Target

Target Protein

SLC4A1

Full Name

Solute carrier family 4 member 1 (Diego blood group)

Introduction

The protein encoded by this gene is part of the anion exchanger (AE) family and is expressed in the erythrocyte plasma membrane, where it functions as a chloride/bicarbonate exchanger involved in carbon dioxide transport from tissues to lungs. The protein comprises two domains that are structurally and functionally distinct. The N-terminal 40kDa domain is located in the cytoplasm and acts as an attachment site for the red cell skeleton by binding ankyrin. The glycosylated C-terminal membrane-associated domain contains 12-14 membrane spanning segments and carries out the stilbene disulphonate-sensitive exchange transport of anions. The cytoplasmic tail at the extreme C-terminus of the membrane domain binds carbonic anhydrase II. The encoded protein associates with the red cell membrane protein glycophorin A and this association promotes the correct folding and translocation of the exchanger. This protein is predominantly dimeric but forms tetramers in the presence of ankyrin. Many mutations in this gene are known in man, and these mutations can lead to two types of disease: destabilization of red cell membrane leading to hereditary spherocytosis, and defective kidney acid secretion leading to distal renal tubular acidosis. Other mutations that do not give rise to disease result in novel blood group antigens, which form the Diego blood group system. Southeast Asian ovalocytosis (SAO, Melanesian ovalocytosis) results from the heterozygous presence of a deletion in the encoded protein and is common in areas where Plasmodium falciparum malaria is endemic. One null mutation in this gene is known, resulting in very severe anemia and nephrocalcinosis.

Alternative Names

DI; FR; SW; WD; WR; AE1; CHC; SAO; WD1; BND3; EPB3; SPH4; CD233; EMPB3; RTA1A; band 3 anion transport protein; Diego blood group; Froese blood group; Swann blood group; Waldner blood group; Wright blood group; anion exchange protein 1; anion exchanger-1; band 3 anion exchanger; erythrocyte membrane protein band 3; erythroid anion exchange protein; solute carrier family 4 (anion exchanger), member 1 (Diego blood group); solute carrier family 4, anion exchanger, member 1 (erythrocyte membrane protein band 3, Diego blood group); solute carrier family 4, anion exchanger, number 1; SLC4A1; Solute carrier family 4 member 1 (Diego blood group)

Gene ID

6521

UniProt ID

P02730