

SLC46A1 Protein, Human (Sf9, His, MBP, FLAG)

Cat. No.:	HY-P702023
Synonyms:	SLC46A1; Proton-coupled folate transporter; G21; Heme carrier protein 1; PCFT/HCP1; Solute carrier family 46 member 1
Species:	Human
Source:	Sf9 insect cells
Accession:	Q96NT5 (E2-P459)
Gene ID:	113235
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	<p>The SLC46A1 protein, a proton-coupled folate symporter, plays a pivotal role in mediating folate absorption by utilizing an H(+) gradient as the driving force. Operating primarily at the brush-border membrane of the proximal jejunum, it facilitates the intestinal absorption of folates and contributes to folate transport from blood to cerebrospinal fluid across the choroid plexus. Functioning at acidic pH, the protein undergoes alternate outward- and inward-open conformational states. Protonation of residues in the outward-open state primes the protein for transport, while binding of folate triggers the closure of the extracellular gate, leading to the inward-open state and the release of protons and folate. Additionally, SLC46A1 demonstrates versatility by transporting antifolate drugs like methotrexate and pemetrexed, widely used in cancer and autoimmune disease treatments. Moreover, it acts as a lower-affinity, pH-independent heme carrier protein, playing a crucial role in heme trafficking and increasing intracellular iron content in various tissues, including the retina, retinal pigment epithelium, hippocampal neurons, hepatocytes, and renal epithelial cells. Notably, there exists an inactive isoform of the protein that cannot mediate proton-coupled folate transport.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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