Human SLC25A28 Antibody

Monoclonal Mouse IgG_{2B} Clone # 1117503

Catalog Number: MAB11774

DESCRIPTION

Species Reactivity	Human
Specificity	Detects a synthetic peptide specific for human SLC25A28 around amino acid 250 in Direct ELISA.
Source	Monoclonal Mouse IgG_{2B} Clone # 1117503
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Synthetic Peptide Accession # Q96A46
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.

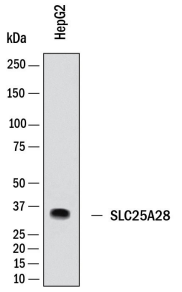
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	HepG2 human hepatocellular carcinoma cell line

DATA

Western Blot



Detection of Human SLC25A28 by Western Blot. Western Blot shows lysates of HepG2 human hepatocellular carcinoma cell line. PVDF membrane was probed with 1 µg/ml of Mouse Anti-Human SLC25A28 Monoclonal Antibody (Catalog # MAB11774) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # Catalog # HAF018). A specific band was detected for SLC25A28 at approximately 36 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute lyophilized material at 0.2 mg/ml in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Solute carrier 25 member 28 (SLC25A28) is a mitochondrial carrier protein, categorized within the solute carrier family. This protein plays an essential role in mitochondrial iron transport and homeostasis, which is crucial for maintaining oxidative phosphorylation and overall cellular energy metabolism. SLC25A28 is predominantly involved in iron export from mitochondria to the cytosol, facilitating optimal levels of iron-sulfur cluster formation and heme biosynthesis. The dysfunction or dysregulation of SLC25A28 can lead to significant cellular disturbances, including oxidative stress and impaired mitochondrial function, both of which have been linked to neurodegenerative diseases and other metabolic disorders. Moreover, mutations in the SLC25A28 gene have been implicated in diseases like sideroblastic anemia and mitochondrial iron-loading disorders, demonstrating its central role in systemic iron regulation. Given its critical functions in cellular metabolism and iron homeostasis, SLC25A28 has emerged as a promising biomarker for metabolic and mitochondrial pathologies, with potential therapeutic implications in iron-related disease management.

References:

1. Kunji ERS, King MS, Ruprecht JJ, Thangaratnarajah C. The SLC25 Carrier Family: Important Transport Proteins in Mitochondrial Physiology and Pathology. Physiology (Bethesda). 2020 Sep 1;35(5):302-327. doi: 10.1152/physiol.00009.2020. PMID: 32783608; PMCID: PMC7611780.2.
2. Guan H, Xiao L, Hao K, Zhang Q, Wu D, Geng Z, Duan B, Dai H, Xu R, Feng X. SLC25A28 Overexpression Promotes Adipogenesis by Reducing ATGL. J Diabetes Res. 2024 May 4;2024:5511454. doi: 10.1155/2024/5511454. PMID: 38736904; PMCID: PMC11088465.

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