



SLC41A3 (h): 293 Lysate: sc-110946

BACKGROUND

SLC41A3 (solute carrier family 41 member 3) is a 507 amino acid multi-pass membrane protein that belongs to the SLC41A transporter family that includes SLC41A1 and SLC41A2. Localizing to the cell membrane, SLC41A3 contains ten transmembrane domains and is believed to function as a plasma-membrane cation transporter. Its other two family members, SLC41A1 and SLC41A2, have been characterized to function as magnesium transporters and are essential for maintaining magnesium homeostasis within the cell. It is likely that SLC41A3 also transports magnesium, which as a cofactor for ATP, plays a vital role in metabolic and biochemical processes. There are seven isoforms of SLC41A3 that are produced as a result of alternative splicing events.

REFERENCES

1. Wabakken, T., Rian, E., Kveine, M. and Aasheim, H.C. 2003. The human solute carrier SLC41A1 belongs to a novel eukaryotic subfamily with homology to prokaryotic MgtE Mg²⁺ transporters. *Biochem. Biophys. Res. Commun.* 306: 718-724.
2. Goytain, A. and Quamme, G.A. 2005. Functional characterization of the mouse [corrected] solute carrier, SLC41A2. *Biochem. Biophys. Res. Commun.* 330: 701-705.
3. Goytain, A. and Quamme, G.A. 2005. Functional characterization of human SLC41A1, a Mg²⁺ transporter with similarity to prokaryotic MgtE Mg²⁺ transporters. *Physiol. Genomics* 21: 337-342.
4. Maguire, M.E. 2006. Magnesium transporters: properties, regulation and structure. *Front. Biosci.* 11: 3149-3163.
5. Sahni, J., Nelson, B. and Scharenberg, A.M. 2007. SLC41A2 encodes a plasma-membrane Mg²⁺ transporter. *Biochem. J.* 401: 505-513.
6. Schmitz, C., Deason, F. and Perraud, A.L. 2007. Molecular components of vertebrate Mg²⁺-homeostasis regulation. *Magnes. Res.* 20: 6-18.
7. Sontia, B. and Touyz, R.M. 2007. Magnesium transport in hypertension. *Pathophysiology* 14: 205-211.
8. Kolisek, M., Launay, P., Beck, A., Sponder, G., Serafini, N., Brenkus, M., Froschauer, E.M., Martens, H., Fleig, A. and Schweigel, M. 2008. SLC41A1 is a novel mammalian Mg²⁺ carrier. *J. Biol. Chem.* 283: 16235-16247.
9. Moomaw, A.S. and Maguire, M.E. 2008. The unique nature of Mg²⁺ channels. *Physiology* 23: 275-285.

CHROMOSOMAL LOCATION

Genetic locus: Slc41a3 (mouse) mapping to 6 D1.

PRODUCT

SLC41A3 (h): 293 Lysate represents a lysate of human SLC41A3 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

SLC41A3 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive SLC41A3 antibodies. Recommended use: 10-20 µl per lane.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.