SANTA CRUZ BIOTECHNOLOGY, INC.

SLC6A8 (F-18): sc-102118

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SLC6A8 (solute carrier family 6 member 8), also known as CT1 (creatine transporter 1), CRT or CRTR, is a 635 amino acid multi-pass plasma membrane protein that belongs to the sodium/neurotransporter (SNF) family. Expressed in a variety of tissues including kidney, skeletal muscle, heart, brain, prostate, testis and colon, SLC6A8 functions to transport creatine into and out of cells, specifically those found in brain and muscle tissue. Creatine, an organic acid, occurs naturally and is essential for supplying the energy needed for proper muscle and nerve function. Defects in the gene encoding SLC6A8 lead to cerebral creatine deficiency and are the cause of X-linked creatine deficiency syndrome, a rare disorder characterized by facial anomalies, seizures and mental retardation. Multiple isoforms of SLC6A8 exist due to alternative splicing events.

REFERENCES

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2. Rosenberg, E.H., et al. 2004. High prevalence of SLC6A8 deficiency in X-linked mental retardation. Am. J. Hum. Genet. 75: 97-105.
3. Mandel, J.L. 2004. Comparative frequency of fragile-X (FMR1) and creatine transporter (SLC6A8) mutations in X-linked mental retardation. Am. J. Hum. Genet. 75: 730-731.
4. Shojaiefard, M., et al. 2005. Stimulation of the creatine transporter SLC6A8 by the protein kinases SGK1 and SGK3. Biochem. Biophys. Res. Commun. 334: 742-746.
5. Dodd, J.R. and Christie, D.L. 2005. Substituted cysteine accessibility of the third transmembrane domain of the creatine transporter: defining a transport pathway. J. Biol. Chem. 280: 32649-32654.
6. Schiaffino, M.C., et al. 2005. X-linked creatine transporter deficiency: clinical description of a patient with a novel SLC6A8 gene mutation. Neurogenetics 6: 165-168.
7. Clark, A.J., et al. 2006. X-linked creatine transporter (SLC6A8) mutations in about 1% of males with mental retardation of unknown etiology. Hum. Genet. 119: 604-610.
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CHROMOSOMAL LOCATION

Genetic locus: SLC6A8 (human) mapping to Xq28.

SOURCE

SLC6A8 (F-18) is a purified rabbit polyclonal antibody raised against SLC6A8 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

SLC6A8 (F-18) is recommended for detection of SLC6A8 of mouse, rat, human and dog origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SLC6A8 siRNA (h): sc-91252, SLC6A8 siRNA (m): sc-153577, SLC6A8 shRNA Plasmid (h): sc-91252-SH, SLC6A8 shRNA Plasmid (m): sc-153577-SH, SLC6A8 shRNA (h) Lentiviral Particles: sc-91252-V and SLC6A8 shRNA (m) Lentiviral Particles: sc-153577-V.

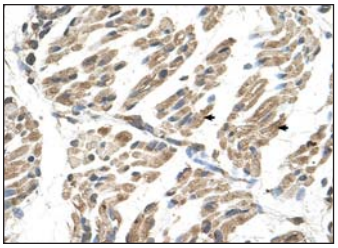
Molecular Weight of SLC6A8: 70 kDa.

Positive Controls: MDA-MB-435S.

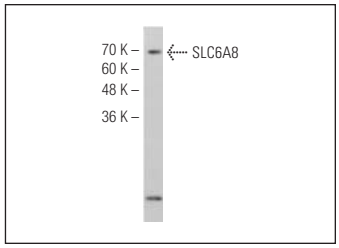
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



SLC6A8 (F-18): sc-102118. Immunoperoxidase staining of formalin fixed, paraffin-embedded human muscle tissue showing cytoplasmic staining.



SLC6A8 (F-18): sc-102118. Western blot analysis of SLC6A8 expression in Jurkat whole cell lysate.

RESEARCH USE

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