SANTA CRUZ BIOTECHNOLOGY, INC.

SLC6A8 (T-12): sc-132459

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; author reply 731-732.
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., et al. 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.
8. Battini, R., et al. 2007. Mental retardation and verbal dyspraxia in a new patient with *de novo* creatine transporter (SLC6A8) mutation. Am. J. Med. Genet. A 143A: 1771-1774.
9. Martínez-Muñoz, C., et al. 2008. Identification, characterization and cloning of SLC6A8C, a novel splice variant of the creatine transporter gene. Gene 418: 53-59.

CHROMOSOMAL LOCATION

Genetic locus: SLC6A8 (human) mapping to Xq28; Slc6a8 (mouse) mapping to X A7.3.

RESEARCH USE

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

SOURCE

SLC6A8 (T-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of SLC6A8 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-132459 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SLC6A8 (T-12) is recommended for detection of SLC6A8 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other SLC6A family members.

SLC6A8 (T-12) is also recommended for detection of SLC6A8 in additional species, including equine, canine, bovine and porcine.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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