SANTA CRUZ BIOTECHNOLOGY, INC.

SLC13A5 (2G4): sc-293277

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SLC13A5 (solute carrier family 13 (sodium-dependent citrate transporter), member 5), also known as NaCT, is a 568 amino acid multi-pass membrane protein that belongs to the SLC13A transporter family and is expressed in liver, brain and testicular tissue. Functioning as a high-affinity sodium/citrate cotransporter, SLC13A5 mediates the electrogenic import of citrate into cells and is thought to facilitate the circulation of citrate for the generation of metabolic energy, as well as the synthesis of cholesterol and fatty acids. The gene encoding SLC13A5 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Pajor, A.M. 1999. Citrate transport by the kidney and intestine. Semin. Nephrol. 19: 195-200.
2. Inoue, K., et al. 2002. Human Na^+-coupled citrate transporter: primary structure, genomic organization, and transport function. Biochem. Biophys. Res. Commun. 299: 465-471.
3. Inoue, K., et al. 2002. Structure, function, and expression pattern of a novel sodium-coupled citrate transporter (NaCT) cloned from mammalian brain. J. Biol. Chem. 277: 39469-39476.
4. Inoue, K., et al. 2003. Human sodium-coupled citrate transporter, the orthologue of *Drosophila* Indy, as a novel target for lithium action. Biochem. J. 374: 21-26.

CHROMOSOMAL LOCATION

Genetic locus: SLC13A5 (human) mapping to 17p13.1.

SOURCE

SLC13A5 (2G4) is a mouse monoclonal antibody raised against amino acids 152-206 of SLC13A5 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 for detailed protocols and support products.

APPLICATIONS

SLC13A5 (2G4) is recommended for detection of SLC13A5 of human 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 SLC13A5 siRNA (h): sc-94127, SLC13A5 shRNA Plasmid (h): sc-94127-SH and SLC13A5 shRNA (h) Lentiviral Particles: sc-94127-V.

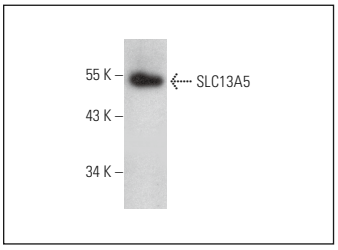
Molecular Weight of SLC13A5: 63 kDa.

Positive Controls: human liver extract: sc-363766.

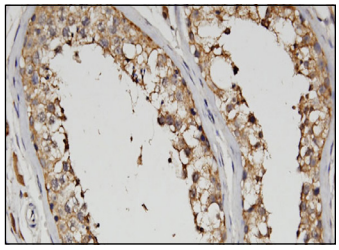
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SLC13A5 (2G4): sc-293277. Western blot analysis of SLC13A5 expression in human liver tissue extract.



SLC13A5 (2G4): sc-293277. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing membrane staining.

SELECT PRODUCT CITATIONS

1. Rigby, M.J., et al. 2022. SLC13A5/sodium-citrate co-transporter overexpression causes disrupted white matter integrity and an autistic-like phenotype. Brain Commun. 4: fcac002.
2. Fernandez-Fuente, G., et al. 2023. The citrate transporters SLC13A5 and SLC25A1 elicit different metabolic responses and phenotypes in the mouse. Commun. Biol. 6: 926.

RESEARCH USE

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