SANTA CRUZ BIOTECHNOLOGY, INC.

SLC5A8 (A-15): sc-34189

BACKGROUND

SLC5A8, a member of the sodium/glucose co-transporter gene family, mediates the transport of a variety of monocarboxylates, including short-chain fatty acids, lactate, nicotinate and pyruvate. It may also transport iodide. SLC5A8 is expressed in colon, ileum, kidney, thyroid gland and brain. Cancers detected in these tissues may involve the silencing of the SLC5A8 gene, which is associated with the hypermethylation of CpG islands in exon 1. Also, acetylation of Histone H3 in the 5' region of the gene correlates directly with SLC5A8 expression and inversely with DNA methylation, suggesting its involvement in silencing SLC5A8 expression in cancers. The gene encoding human SLC5A8 maps to chromosome 12q23.1.

REFERENCES

1. Gopal, E., et al. 2004. Expression of SLC5A8 in kidney and its role in Na^+-coupled transport of lactate. J. Biol. Chem. 279: 44522-44532.
2. Coady, M.J., et al. 2004. The human tumour suppressor gene SLC5A8 expresses a Na^+-monocarboxylate cotransporter. J. Physiol. 557: 719-731.
3. Ueno, M., et al. 2004. Aberrant methylation and Histone deacetylation associated with silencing of SLC5A8 in gastric cancer. Tumour Biol. 25: 134-140.
4. Gopal, E., et al. 2005. Sodium-coupled and electrogenic transport of B-complex vitamin nicotinic acid by SLC5A8, a member of the Na/glucose co-transporter gene family. Biochem. J. 388: 309-316.
5. Ganapathy, V., et al. 2005. Biological functions of SLC5A8, a candidate tumour suppressor. Biochem. Soc. Trans. 33: 237-240.
6. Hong, C., et al. 2005. Shared epigenetic mechanisms in human and mouse gliomas inactivate expression of the growth suppressor SLC5A8. Cancer Res. 65: 3617-3623.

CHROMOSOMAL LOCATION

Genetic locus: SLC5A8 (human) mapping to 12q23.1, SLC5A5 (human) mapping to 19p13.11; Slc5a8 (mouse) mapping to 10 C1, Slc5a5 (mouse) mapping to 8 B3.3.

SOURCE

SLC5A8 (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SLC5A8 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-34189 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SLC5A8 (A-15) is recommended for detection of SLC5A8 and SLC5A5 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SLC5A8 (A-15) is also recommended for detection of SLC5A8 and SLC5A5 in additional species, including canine, porcine and avian.

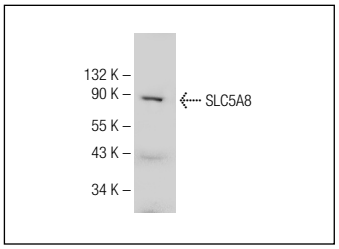
Molecular Weight of SLC5A8: 67 kDa.

Positive Controls: MCF10A whole cell lysate, TT whole cell lysate: sc-364195 or KNRK whole cell lysate: sc-2214.

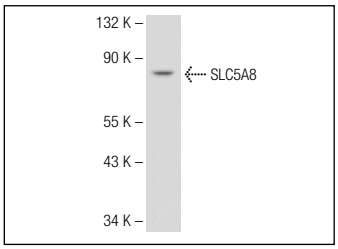
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SLC5A8 (A-15): sc-34189. Western blot analysis of SLC5A8 expression in MCF10A whole cell lysate.



SLC5A8 (A-15): sc-34189. Western blot analysis of SLC5A8 expression in TT whole cell lysate.

SELECT PRODUCT CITATIONS

1. Whitman, S.P., et al. 2008. DNA hypermethylation and epigenetic silencing of the tumor suppressor gene, SLC5A8, in acute myeloid leukemia with the MLL partial tandem duplication. Blood 112: 2013-2016.
2. Bennett, K.L., et al. 2009. Disruption of transforming growth factor-β signaling by five frequently methylated genes leads to head and neck squamous cell carcinoma pathogenesis. Cancer Res. 69: 9301-9305.

RESEARCH USE

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