

SLC6A14 (G-13): sc-169348

BACKGROUND

SLC6A14 (solute carrier family 6 (amino acid transporter), member 14) is a 642 amino acid multi-pass membrane protein that belongs to the sodium:neurotransmitter symporter (SNF) family and the SLC6A14 subfamily. SLC6A14 mediates the uptake of a broad range of neutral and cationic amino acids (with the exception of proline) in a Na⁺/Cl⁻-dependent manner. Levels of SLC6A14 are highest in adult and fetal lung, trachea and salivary gland. Lower levels detected in mammary gland, stomach and pituitary gland, and very low levels in colon, uterus, prostate and testis. Significant associations between susceptibility to obesity and SNPs in exon 14 and in intron 12 of the SLC6A14 gene have been found ($p = 0.0002$ and 0.07 , respectively). Containing 14 exons and spanning about 29 kb, the SLC6A14 gene is conserved in canine, bovine, mouse, rat, zebrafish and *C. elegans*, and maps to human chromosome Xq23.

REFERENCES

- Sloan, J.L. and Mager, S. 1999. Cloning and functional expression of a human Na⁺ and Cl⁻-dependent neutral and cationic amino acid transporter B⁰⁺. *J. Biol. Chem.* 274: 23740-23745.
- Ohman, M., Oksanen, L., Kaprio, J., Koskenvuo, M., Mustajoki, P., Rissanen, A., Salmi, J., Kontula, K. and Peltonen, L. 2000. Genome-wide scan of obesity in Finnish sibpairs reveals linkage to chromosome Xq24. *J. Clin. Endocrinol. Metab.* 85: 3183-3190.
- Suviolahti, E., Oksanen, L.J., Ohman, M., Cantor, R.M., Ridderstrale, M., Tuomi, T., Kaprio, J., Rissanen, A., Mustajoki, P., Jousilahti, P., Vartiainen, E., Silander, K., Kilpikari, R., Salomaa, V., Groop, L., Kontula, K., Peltonen, L. and Pajukanta, P. 2003. The SLC6A14 gene shows evidence of association with obesity. *J. Clin. Invest.* 112: 1762-1772.
- Online Mendelian Inheritance in Man, OMIM[™]. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 300444. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Durand, E., Boutin, P., Meyre, D., Charles, M.A., Clement, K., Dina, C. and Froguel, P. 2004. Polymorphisms in the amino acid transporter solute carrier family 6 (neurotransmitter transporter) member 14 gene contribute to polygenic obesity in French Caucasians. *Diabetes* 53: 2483-2486.
- Eriksson, A., Flach, C.F., Lindgren, A., Kvifors, E. and Lange, S. 2008. Five mucosal transcripts of interest in ulcerative colitis identified by quantitative real-time PCR: a prospective study. *BMC Gastroenterol.* 8: 34.
- Anderson, C.M., Ganapathy, V. and Thwaites, D.T. 2008. Human solute carrier SLC6A14 is the β -alanine carrier. *J. Physiol.* 586: 4061-4067.
- Corpeleijn, E., Petersen, L., Holst, C., Saris, W.H., Astrup, A., Langin, D., MacDonald, I., Martinez, J.A., Oppert, J.M., Polak, J., Pedersen, O., Froguel, P., Arner, P., Sorensen, T.I. and Blaak, E.E. 2010. Obesity-related polymorphisms and their associations with the ability to regulate fat oxidation in obese Europeans: the NUGENOB study. *Obesity* 18: 1369-1377.

CHROMOSOMAL LOCATION

Genetic locus: SLC6A14 (human) mapping to Xq23; Slc6a14 (mouse) mapping to X A2.

SOURCE

SLC6A14 (G-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SLC6A14 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-169348 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SLC6A14 (G-13) is recommended for detection of SLC6A14 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.

SLC6A14 (G-13) is also recommended for detection of SLC6A14 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SLC6A14 siRNA (h): sc-91007, SLC6A14 siRNA (m): sc-153573, SLC6A14 shRNA Plasmid (h): sc-91007-SH, SLC6A14 shRNA Plasmid (m): sc-153573-SH, SLC6A14 shRNA (h) Lentiviral Particles: sc-91007-V and SLC6A14 shRNA (m) Lentiviral Particles: sc-153573-V.

Molecular Weight of SLC6A14: 72 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.

RESEARCH USE

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

PROTOCOLS

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