SANTA CRUZ BIOTECHNOLOGY, INC.

SLC22A12 (2B5): sc-293405

BACKGROUND

SLC22A12 (solute carrier family 22 (organic anion/urate transporter), member 12), also known as RST, OAT4L or URAT1 (urate transporter-1), is a 553 amino acid multi-pass membrane protein belonging to the major facilitator superfamily and the organic cation transporter family. Expressed in epithelial cells of proximal tubules in renal cortex, SLC22A12 is required for efficient urate re-absorption in the kidney, thereby regulating blood urate levels and mediating saturable urate uptake by facilitating the exchange of urate against organic anions. Defects in the SLC22A12 gene leads to renal hypouricemia (RH), an inherited disorder characterized by impaired tubular uric acid transport. Individuals affected with RH have low serum urate levels due to defects in renal urate re-absorption and high urinary urate excretion. SLC22A12 has three consensus sequences for N-glycosylation and two cyclic AMP-dependent protein kinase phosphorylation sites.

REFERENCES

1. Enomoto, A., et al. 2002. Molecular identification of a renal urate anion exchanger that regulates blood urate levels. Nature 417: 447-452.
2. Hamada, T., et al. 2008. Uricosuric action of losartan via the inhibition of urate transporter 1 (URAT 1) in hypertensive patients. Am. J. Hypertens. 21: 1157-1162.
3. Jang, W.C., et al. 2008. T6092C polymorphism of SLC22A12 gene is associated with serum uric acid concentrations in Korean male subjects. Clin. Chim. Acta 398: 140-144.
4. Lam, C.W., et al. 2008. A novel mutation of SLC22A12 gene causing primary renal hypouricemia in a patient with metabolic syndrome. Clin. Chim. Acta 398: 157-158.
5. Ichida, K., et al. 2008. Age and origin of the G774A mutation in SLC22A12 causing renal hypouricemia in Japanese. Clin. Genet. 74: 243-251.
6. Lee, J.H., et al. 2008. Prevalence of hypouricaemia and SLC22A12 mutations in healthy Korean subjects. Nephrology 13: 661-666.
7. Endou, H., et al. 2008. Urate transport across the apical membrane of renal proximal tubules. Nucleosides Nucleotides Nucleic Acids 27: 578-584.
8. Tu, H.P., et al. 2009. SLC22A12 Gene is associated with gout in Han Chinese and solomon islanders. Ann. Rheum. Dis. 69: 1252-1254.
9. Guan, M., et al. 2009. High-resolution melting analysis for the rapid detection of an intronic single nucleotide polymorphism in SLC22A12 in male patients with primary gout in China. Scand. J. Rheumatol. 38: 276-281.

CHROMOSOMAL LOCATION

Genetic locus: SLC22A12 (human) mapping to 11q13.1.

SOURCE

SLC22A12 (2B5) is a mouse monoclonal antibody raised against amino acids 281-349 of SLC22A12 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SLC22A12 (2B5) is recommended for detection of SLC22A12 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SLC22A12 siRNA (h): sc-96373, SLC22A12 shRNA Plasmid (h): sc-96373-SH and SLC22A12 shRNA (h) Lentiviral Particles: sc-96373-V.

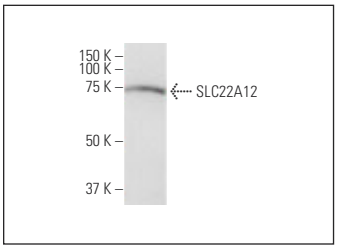
Molecular Weight of SLC22A12: 60 kDa.

Positive Controls: human stomach extract: sc-363780.

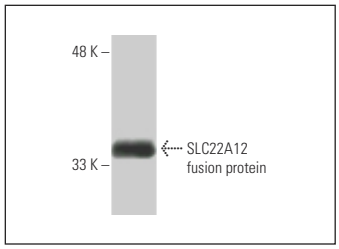
RECOMMENDED SUPPORT REAGENTS

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).

DATA



SLC22A12 (2B5): sc-293405. Western blot analysis of SLC22A12 expression in human stomach tissue extract.



SLC22A12 (2B5): sc-293405. Western blot analysis of human recombinant SLC22A12 fusion protein.

SELECT PRODUCT CITATIONS

1. Jiang, Z., et al. 2022. Exercise serum regulates uric acid transporters in normal rat kidney cells. Sci. Rep. 12: 18086.

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.