SANTA CRUZ BIOTECHNOLOGY, INC.

ENT4 (SA-18): sc-101295

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ENT4 (equilibrative nucleoside transporter 4), also known as SLC29A4 (solute carrier family 29 member 4) or PMAT, is a 530 amino acid plasma membrane protein that is involved in the transport of various compounds throughout the body. Highly expressed in skeletal muscle and brain with weaker expression in heart, kidney and liver, ENT4 functions to transport monoamine molecules, such as dopamine and serotonin, to various areas of the brain. ENT4 is thought to catalyze the reuptake of these molecules into presynaptic neurons, thereby regulating neural signaling events. Although the activity of ENT4 is not dependent upon the intracellular concentrations of ions such as calcium and sodium, its activity is thought to be sensitive to changes in membrane potential. Multiple isoforms of ENT4 are expressed due to alternative splicing events.

REFERENCES

1. Engel, K., Zhou, M. and Wang, J. 2004. Identification and characterization of a novel monoamine transporter in the human brain. J. Biol. Chem. 279: 50042-50049.
2. Baldwin, S.A., Beal, P.R., Yao, S.Y., King, A.E., Cass, C.E. and Young, J.D. 2004. The equilibrative nucleoside transporter family, SLC29. Pflugers Arch. 447: 735-743.
3. Engel, K. and Wang, J. 2005. Interaction of organic cations with a newly identified plasma membrane monoamine transporter. Mol. Pharmacol. 68: 1397-1407.
4. Barnes, K., Dobrzynski, H., Foppolo, S., Beal, P.R., Ismat, F., Scullion, E.R., Sun, L., Tellez, J., Ritzel, M.W., Claycomb, W.C., Cass, C.E., Young, J.D., Billeter-Clark, R., Boyett, M.R. and Baldwin, S.A. 2006. Distribution and functional characterization of equilibrative nucleoside transporter-4, a novel cardiac adenosine transporter activated at acidic pH. Circ. Res. 99: 510-519.
5. Endo, Y., Obata, T., Murata, D., Ito, M., Sakamoto, K., Fukushima, M., Yamasaki, Y., Yamada, Y., Natsume, N. and Sasaki, T. 2007. Cellular localization and functional characterization of the equilibrative nucleoside transporters of antitumor nucleosides. Cancer Sci. 98: 1633-1637.
6. Bottalico, B., Noskova, V., Pilka, R., Larsson, I., Domanski, H., Casslén, B. and Hansson, S.R. 2007. The organic cation transporters (OCT1, OCT2, EMT) and the plasma membrane monoamine transporter (PMAT) show differential distribution and cyclic expression pattern in human endometrium and early pregnancy decidua. Mol. Reprod. Dev. 74: 1303-1311.

CHROMOSOMAL LOCATION

Genetic locus: SLC29A4 (human) mapping to 7p22.1; Slc29a4 (mouse) mapping to 5 G2.

SOURCE

ENT4 (SA-18) is a mouse monoclonal antibody raised against recombinant ENT4 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

ENT4 (SA-18) is recommended for detection of ENT4 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ENT4 siRNA (h): sc-89525, ENT4 siRNA (m): sc-144898, ENT4 shRNA Plasmid (h): sc-89525-SH, ENT4 shRNA Plasmid (m): sc-144898-SH, ENT4 shRNA (h) Lentiviral Particles: sc-89525-V and ENT4 shRNA (m) Lentiviral Particles: sc-144898-V.

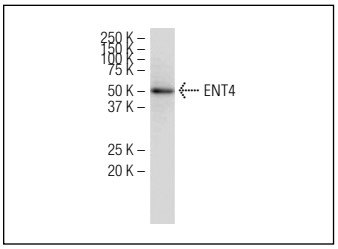
Molecular Weight of ENT4: 58 kDa.

Positive Controls: PC-12 cell lysate: sc-2250.

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, 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).

DATA



ENT4 (SA-18): sc-101295. Western blot analysis of ENT4 expression in PC-12 whole cell lysate.

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.