

CTL2 (F7): sc-101266

BACKGROUND

Choline is an essential nutrient that is required for the synthesis of both acetylcholine, a neurotransmitter found in cholinergic nerve terminals, and phosphatidylcholine, a key component of cell membranes. Choline deficiencies are associated with defects in cell growth and have been implicated in disorders such as Alzheimer's and Parkinson's disease. The choline transporter-like protein family (CTL) are solute carriers that transport choline, a compound which is not able to permeate cells, across the cell membrane. CTL2, also called SLC44A2 (solute carrier family 44 member 2), is a multi-pass membrane protein expressed in cells of the inner ear. CTL2 is a possible candidate for autoimmune hearing loss in humans.

REFERENCES

1. O'Regan, S., et al. 2000. An electric lobe suppressor for a yeast choline transport mutation belongs to a new family of transporter-like proteins. *Proc. Natl. Acad. Sci. USA* 97: 1835-1840.
2. Nair, T.S., et al. 2004. Identification and characterization of choline transporter-like protein 2, an inner ear glycoprotein of 68 and 72 kDa that is the target of antibody-induced hearing loss. *J. Neurosci.* 24: 1772-1779.
3. Traiffort, E., et al. 2005. Molecular characterization of the family of choline transporter-like proteins and their splice variants. *J. Neurochem.* 92: 1116-1125.
4. Michel, V., et al. 2006. Choline transport for phospholipid synthesis. *Exp. Biol. Med.* 231: 490-504.
5. Santos, R.L., et al. 2006. DFN68, a novel autosomal recessive non-syndromic hearing impairment locus at chromosomal region 19p13.2. *Hum. Genet.* 120: 85-92.
6. Wang, T., et al. 2007. Choline transporters in human lung adenocarcinoma: expression and functional implications. *Acta Biochim. Biophys. Sin.* 39: 668-674.
7. Kommareddi, P.K., et al. 2007. Cochlin isoforms and their interaction with CTL2 (SLC44A2) in the inner ear. *J. Assoc. Res. Otolaryngol.* 8: 435-446.

CHROMOSOMAL LOCATION

Genetic locus: SLC44A2 (human) mapping to 19p13.2; Slc44a2 (mouse) mapping to 9 A3.

SOURCE

CTL2 (F7) is a mouse monoclonal antibody raised against amino acids 123-231 of CTL2 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ 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.

APPLICATIONS

CTL2 (F7) is recommended for detection of CTL2 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), 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 CTL2 siRNA (h): sc-62163, CTL2 siRNA (m): sc-62164, CTL2 shRNA Plasmid (h): sc-62163-SH, CTL2 shRNA Plasmid (m): sc-62164-SH, CTL2 shRNA (h) Lentiviral Particles: sc-62163-V and CTL2 shRNA (m) Lentiviral Particles: sc-62164-V.

Molecular Weight of nascent CTL2: 68 kDa.

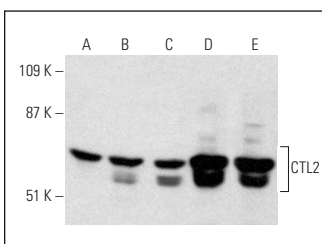
Molecular Weight of glycosylated CTL2: 72 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or NCI-H460 whole cell lysate: sc-364235.

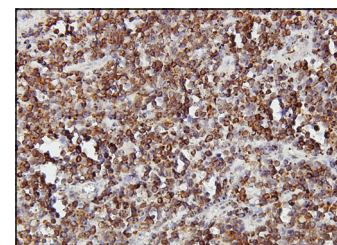
RECOMMENDED SUPPORT REAGENTS

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



CTL2 (F7): sc-101266. Western blot analysis of CTL2 expression in NCI-H460 (A), Jurkat (B), K-562 (C), C2C12 (D) and L8 (E) whole cell lysates.



CTL2 (F7): sc-101266. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymphoma tissue showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Riojas, A.M., et al. 2022. Blood pressure and the kidney cortex transcriptome response to high-sodium diet challenge in female nonhuman primates. *Physiol. Genomics* 54: 443-454.

RESEARCH USE

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