SANTA CRUZ BIOTECHNOLOGY, INC.

L-type Ca^{++} CP γ7 (T-13): sc-109954

BACKGROUND

L-type Ca^{++} CP γ7 (voltage-dependent calcium channel γ-7 subunit), also known as CACNG7 or TARP γ-7 (transmembrane AMPAR regulatory protein γ-7), is a 275 amino acid multi-pass membrane protein belonging to the PMP-22/EMP/MP20 family and CACNG subfamily. Widely expressed, L-type Ca^{++} CP γ7 is composed of five subunits, designated α-1, α-2/δ, β and γ. L-type Ca^{++} CP γ7 acts as an auxiliary subunit for AMPA-selective glutamate receptors (AMPARs) and regulates AMPAR trafficking and channel gating properties. L-type Ca^{++} CP γ7 may stabilize the calcium channel when in an inactivated state and displays subunit-specific AMPAR regulation. The gene encoding L-type Ca^{++} CP γ7 maps to human chromosome 19q13.42 and mouse chromosome 7 A1.

REFERENCES

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3. Moss, F.J., Viard, P., Davies, A., Bertaso, F., Page, K.M., Graham, A., Cantí, C., Plumpton, M., Plumpton, C., Clare, J.J. and Dolphin, A.C. 2002. The novel product of a five-exon stargazin-related gene abolishes Ca(V)2.2 calcium channel expression. EMBO J. 21: 1514-1523.
4. Chen, R.S., Deng, T.C., Garcia, T., Sellers, Z.M. and Best, P.M. 2007. Calcium channel γ subunits: a functionally diverse protein family. Cell Biochem. Biophys. 47: 178-186.
5. Kato, A.S., Gill, M.B., Ho, M.T., Yu, H., Tu, Y., Siuda, E.R., Wang, H., Qian, Y.W., Nisenbaum, E.S., Tomita, S. and Bredt, D.S. 2010. Hippocampal AMPA receptor gating controlled by both TARP and cornichon proteins. Neuron 68: 1082-1096.

CHROMOSOMAL LOCATION

Genetic locus: CACNG7 (human) mapping to 19q13.42; Cacng7 (mouse) mapping to 7 A1.

SOURCE

L-type Ca^{++} CP γ7 (T-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of L-type Ca^{++} CP γ7 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-109954 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

L-type Ca^{++} CP γ7 (T-13) is recommended for detection of L-type Ca^{++} CP γ7 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).

L-type Ca^{++} CP γ7 (T-13) is also recommended for detection of L-type Ca^{++} CP γ7 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for L-type Ca^{++} CP γ7 siRNA (h): sc-97526, L-type Ca^{++} CP γ7 siRNA (m): sc-146620, L-type Ca^{++} CP γ7 shRNA Plasmid (h): sc-97526-SH, L-type Ca^{++} CP γ7 shRNA Plasmid (m): sc-146620-SH, L-type Ca^{++} CP γ7 shRNA (h) Lentiviral Particles: sc-97526-V and L-type Ca^{++} CP γ7 shRNA (m) Lentiviral Particles: sc-146620-V.

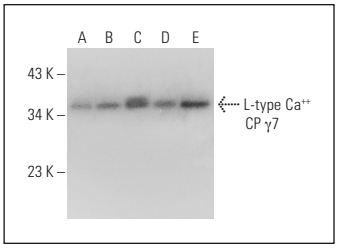
Molecular Weight of L-type Ca^{++} CP γ7: 31 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

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



L-type Ca^{++} CP γ7 (T-13): sc-109954. Western blot analysis of L-type Ca^{++} CP γ7 expression in U-251-MG (**A**), Hep G2 (**B**), HeLa (**C**), Jurkat (**D**) and K-562 (**E**) whole cell lysates.

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.