SANTA CRUZ BIOTECHNOLOGY, INC.

ALS2CR7 (P-15): sc-103382

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Amyotrophic lateral sclerosis (ALS) is a fatal neurodegenerative disease characterized by progressive limb or bulbar weakness. Mutations in the ALS2 gene result in a number of juvenile recessive motor neuron diseases (MNDs), including juvenile primary lateral sclerosis (JPLS), infantile onset ascending hereditary spastic paralysis (IAHSP) and a form of complicated hereditary spastic paraplegia (cHSP). The ALS2 gene encodes the Alsin protein, which acts as a guanine nucleotide exchange factor for Rab5, a modulator of the endocytic pathway. Alsin is a cytosolic protein that is associated with small, punctate membrane structures. Therefore Alsin may mediate membrane transport events, potentially linking endocytic processes and Actin cytoskeleton remodeling. ALS2CR7 (amyotrophic lateral sclerosis 2 chromosomal region candidate gene 7 protein), also known as PFTK2, is a 384 amino acid protein belonging to the protein kinase superfamily. ALS2CR7 catayzes the ATP-dependent phosphorylation of target proteins, thereby influencing signaling events throughout the cell. ALS2CR7 exists as three isoforms due to alternative splicing events.

REFERENCES

1. Yang, Y., et al. 2001. The gene encoding Alsin, a protein with three guanine-nucleotide exchange factor domains, is mutated in a form of recessive amyotrophic lateral sclerosis. Nat. Genet. 29: 160-165.
2. Topp, J.D., et al. 2004. Alsin is a Rab 5 and Rac 1 guanine nucleotide exchange factor. J. Biol. Chem. 279: 24612-24623.
3. Hadano, S., et al. 2004. ALS2CL, the novel protein highly homologous to the carboxy-terminal half of ALS2, binds to Rab 5 and modulates endosome dynamics. FEBS Lett. 575: 64-70.
4. Devon, R.S., et al. 2005. Cross-species characterization of the ALS2 gene and analysis of its pattern of expression in development and adulthood. Neurobiol. Dis. 18: 243-257.
5. Panzeri, C., et al. 2006. The first ALS2 missense mutation associated with JPLS reveals new aspects of Alsin biological function. Brain 129: 1710-1719.
6. Matsuoka, M. and Nishimoto, I. 2006. Anti-ALS activity of Alsin, the product of the ALS2 gene, and activity-dependent neurotrophic factor. Neurodegener. Dis. 2: 135-138.

CHROMOSOMAL LOCATION

Genetic locus: PFTK2 (human) mapping to 2q33.1; Pftk2 (mouse) mapping to 1 C1.3.

SOURCE

ALS2CR7 (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ALS2CR7 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-103382 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ALS2CR7 (P-15) is recommended for detection of ALS2CR7 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); non cross-reactive with other ALS2CR family members.

ALS2CR7 (P-15) is also recommended for detection of ALS2CR7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ALS2CR7 siRNA (h): sc-105057, ALS2CR7 siRNA (m): sc-105058, ALS2CR7 shRNA Plasmid (h): sc-105057-SH, ALS2CR7 shRNA Plasmid (m): sc-105058-SH, ALS2CR7 shRNA (h) Lentiviral Particles: sc-105057-V and ALS2CR7 shRNA (m) Lentiviral Particles: sc-105058-V.

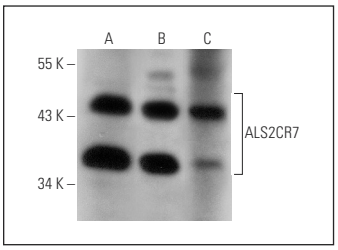
Molecular Weight of ALS2CR7: 44 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, human testis extract: sc-363781 or U-2 OS cell lysate: sc-2295.

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



ALS2CR7 (P-15): sc-103382. Western blot analysis of ALS2CR7 expression in HUV-EC-C (**A**) and U-2 OS (**B**) whole cell lysates and human testis tissue extract (**C**).

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.