

AGTPBP1 (K-13): sc-162498

BACKGROUND

AGTPBP1 (ATP/GTP-binding protein 1), also known as CCP1 (cytosolic carboxypeptidase 1), KIAA1035 or NNA1, is a 1,226 amino acid protein that belongs to the peptidase M14 family. AGTPBP1 contains an ATP/GTP-binding motif of the P-loop type, a leucine zipper, a nuclear localization signal, a zinc carboxypeptidase signature and a nucleotide-binding site. Expressed at high levels in testis, heart and dorsal root ganglia and at lower levels in skeletal muscle and kidney, AGTPBP1 may be responsible for Purkinje cell degeneration (pcd). The loss of AGTPBP1 in Purkinje cells leads directly to their degeneration and a functional carboxypeptidase domain is crucial for AGTPBP1 to support neuron survival. Two isoforms exist due to alternative splicing events.

REFERENCES

- Harris, A., et al. 2000. Regenerating motor neurons express Nna1, a novel ATP/GTP-binding protein related to zinc carboxypeptidases. *Mol. Cell. Neurosci.* 16: 578-596.
- Fernandez-Gonzalez, A., et al. 2002. Purkinje cell degeneration (pcd) phenotypes caused by mutations in the axotomy-induced gene, Nna1. *Science* 295: 1904-1906.
- Delis, F., et al. 2004. Dopamine receptor and transporter levels are altered in the brain of Purkinje Cell Degeneration mutant mice. *Neuroscience* 125: 255-268.
- Chakrabarti, L., et al. 2006. The Purkinje cell degeneration 5J mutation is a single amino acid insertion that destabilizes Nna1 protein. *Mamm. Genome* 17: 103-110.
- Wang, T., et al. 2006. The carboxypeptidase-like substrate-binding site in Nna1 is essential for the rescue of the Purkinje cell degeneration (pcd) phenotype. *Mol. Cell. Neurosci.* 33: 200-213.
- Lalonde, R., et al. 2007. Spontaneous and induced mouse mutations with cerebellar dysfunctions: behavior and neurochemistry. *Brain Res.* 1140: 51-74.
- Rodriguez de la Vega, M., et al. 2007. Nna1-like proteins are active metal-localcarboxypeptidases of a new and diverse M14 subfamily. *FASEB J.* 21: 851-865.
- Chakrabarti, L., et al. 2008. The zinc-binding domain of Nna1 is required to prevent retinal photoreceptor loss and cerebellar ataxia in Purkinje cell degeneration (pcd) mice. *Vision Res.* 48: 1999-2005.

CHROMOSOMAL LOCATION

Genetic locus: AGTPBP1 (human) mapping to 9q21.33; Agtbbp1 (mouse) mapping to 13 B2.

SOURCE

AGTPBP1 (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of AGTPBP1 of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-162498 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AGTPBP1 (K-13) is recommended for detection of AGTPBP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for AGTPBP1 siRNA (h): sc-92665, AGTPBP1 siRNA (m): sc-140908, AGTPBP1 shRNA Plasmid (h): sc-92665-SH, AGTPBP1 shRNA Plasmid (m): sc-140908-SH, AGTPBP1 shRNA (h) Lentiviral Particles: sc-92665-V and AGTPBP1 shRNA (m) Lentiviral Particles: sc-140908-V.

Molecular Weight of AGTPBP1: 130 kDa.

Positive Controls: 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) 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.