SANTA CRUZ BIOTECHNOLOGY, INC.

ATP13A2 (G-14): sc-160158

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ATP13A2 (ATPase type 13A2), also known as KRPPD, PARK9 or HSA9947, is an 1,180 amino acid multi-pass membrane protein that belongs to the P5 subfamily of ATPases which play an important role in the transportation of inorganic cations. Expressed as multiple alternative spliced isoforms, ATP13A2 functions to catalyze the conversion of ATP to ADP and a free phosphate, thereby participating in the active transport of ions across cellular membranes. Defects in the gene encoding ATP13A2 are the cause of Kufor-Rakeb syndrome (KRS), a rare hereditary type of Parkinson's disease that exhibits juvenile onset and is characterized by neurodegeneration and dementia. The ATP13A2 gene maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes, and comprises nearly 8% of the human genome.

REFERENCES

1. Hampshire, D.J., et al. 2001. Kufor-Rakeb syndrome, pallido-pyramidal degeneration with supranuclear upgaze paresis and dementia, maps to 1p36. J. Med. Genet. 38: 680-682.
2. Schultheis, P.J., et al. 2004. Characterization of the P5 subfamily of P-type transport ATPases in mice. Biochem. Biophys. Res. Commun. 323: 731-738.
3. Ramirez, A., et al. 2006. Hereditary parkinsonism with dementia is caused by mutations in ATP13A2, encoding a lysosomal type 5 P-type ATPase. Nat. Genet. 38: 1184-1191.
4. Di Fonzo, A., et al. 2007. ATP13A2 missense mutations in juvenile parkinsonism and young onset Parkinson disease. Neurology 68: 1557-1562.
5. Vilariño-Güell, C., et al. 2008. ATP13A2 variability in Parkinson disease. Hum. Mutat. 30: 406-410.
6. Rakovic, A., et al. 2008. Genetic association study of the P-type ATPase ATP13A2 in late-onset Parkinson's disease. Mov. Disord. 24: 429-433.
7. Ning, Y.P., et al. 2008. PARK9-linked parkinsonism in eastern Asia: mutation detection in ATP13A2 and clinical phenotype. Neurology 70: 1491-1493.
8. Lin, C.H., et al. 2008. Novel ATP13A2 variant associated with Parkinson disease in Taiwan and Singapore. Neurology 71: 1727-1732.

CHROMOSOMAL LOCATION

Genetic locus: ATP13A2 (human) mapping to 1p36.13; Atp13a2 (mouse) mapping to 4 D3.

SOURCE

ATP13A2 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of ATP13A2 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-160158 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ATP13A2 (G-14) is recommended for detection of ATP13A2 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 ATP13A family members.

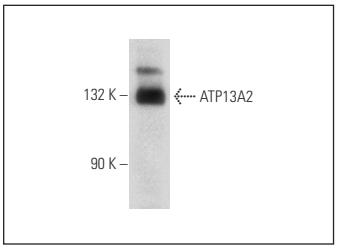
ATP13A2 (G-14) is also recommended for detection of ATP13A2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ATP13A2 siRNA (h): sc-88587, ATP13A2 siRNA (m): sc-141339, ATP13A2 shRNA Plasmid (h): sc-88587-SH, ATP13A2 shRNA Plasmid (m): sc-141339-SH, ATP13A2 shRNA (h) Lentiviral Particles: sc-88587-V and ATP13A2 shRNA (m) Lentiviral Particles: sc-141339-V.

Molecular Weight of ATP13A2: 129 kDa.

Positive Controls: mouse brain extract: sc-2253 or AML-193 whole cell lysate: sc-364182.

DATA



ATP13A2 (G-14): sc-160158. Western blot analysis of ATP13A2 expression in mouse brain tissue extract.

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.

PROTOCOLS

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