SANTA CRUZ BIOTECHNOLOGY, INC.

ATP7A (N-15): sc-30856

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The copper efflux transporters ATP7A and ATP7B sequester intracellular copper into the vesicular secretory pathway for export from the cell. ATP7A (also known as copper-transporting ATPase 1) functions as a transmembrane copper-translocating P-type ATPase and plays a vital role in systemic copper absorption in the gut and copper reabsorption in the kidney. Polarized epithelial cells such as madin-darby canine kidney cells are a physiologically relevant model for systemic copper absorption and reabsorption *in vivo*. Although ATP7A is not detectable in most normal tissues it is expressed in a considerable fraction of many common tumor types. Increased expression of ATP7A renders cells resistant to cisplatin and carboplatin. Mutations in the ATP7A gene result in menkes disease, which is fatal in early childhood. Mutations in the ATP7B gene lead to the autosomal recessive disorder, wilson disease, characterized by neurological symptoms and hepatic damage.

CHROMOSOMAL LOCATION

Genetic locus: ATP7A (human) mapping to Xq21.1; Atp7a (mouse) mapping to X D.

SOURCE

ATP7A (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ATP7A 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-30856 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

ATP7A (N-15) is recommended for detection of ATP7A (also known as Copper-transporting ATPase 1) 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), 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).

ATP7A (N-15) is also recommended for detection of ATP7A (also known as Copper-transporting ATPase 1) in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for ATP7A siRNA (h): sc-105107, ATP7A siRNA (m): sc-141362, ATP7A shRNA Plasmid (h): sc-105107-SH, ATP7A shRNA Plasmid (m): sc-141362-SH, ATP7A shRNA (h) Lentiviral Particles: sc-105107-V and ATP7A shRNA (m) Lentiviral Particles: sc-141362-V.

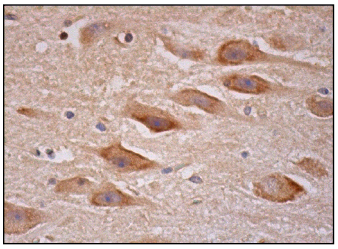
Molecular Weight of ATP7A: 178 kDa.

Positive Controls: HCT-8 cell lysate: sc-24675.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



ATP7A (N-15): sc-30856. Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing cytoplasmic and membrane staining of neuronal cells and cytoplasmic staining of glial cells.

STORAGE

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

PROTOCOLS

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