

Antiquitin (C-18): sc-79398

BACKGROUND

Aldehyde dehydrogenases (ALDHs) mediate the NADP⁺-dependent oxidation of aldehydes into acids and play an important role in the detoxification of alcohol-derived acetaldehyde, as well as in lipid peroxidation and in the metabolism of corticosteroids, biogenic amines and neurotransmitters. Antiquitin, also known as ALDH7A1 (aldehyde dehydrogenase 7 family, member A1), ATQ1, EPD or PDE, is a 539 amino acid protein that is highly expressed in ovary, heart, eye, kidney and ear tissue and plays an important role in the detoxification of lipid peroxidation- and alcohol metabolism-related aldehydes. Mutations in the gene encoding Antiquitin are the cause of pyridoxine-dependent epilepsy (PDE), a rare disorder that is characterized by seizures that begin at infancy and involve muscle rigidity, convulsions and loss of consciousness. Additionally, PDE is associated with poor muscle tone, hypothermia and irritability.

REFERENCES

1. Skvorak, A.B., et al. 1997. An ancient conserved gene expressed in the human inner ear: identification, expression analysis, and chromosomal mapping of human and mouse antiquitin (ATQ1). *Genomics* 46: 191-199.
2. Mills, P.B., et al. 2006. Mutations in antiquitin in individuals with pyridoxine-dependent seizures. *Nat. Med.* 12: 307-309.
3. Salomons, G.S., et al. 2007. An intriguing "silent" mutation and a founder effect in antiquitin (ALDH7A1). *Ann. Neurol.* 62: 414-418.
4. Bok, L.A., et al. 2007. Pyridoxine-dependent seizures in Dutch patients: diagnosis by elevated urinary α -amino adipic semialdehyde levels. *Arch. Dis. Child.* 92: 687-689.
5. Plecko, B., et al. 2007. Biochemical and molecular characterization of 18 patients with pyridoxine-dependent epilepsy and mutations of the antiquitin (ALDH7A1) gene. *Hum. Mutat.* 28: 19-26.

CHROMOSOMAL LOCATION

Genetic locus: ALDH7A1 (human) mapping to 5q23.2.

SOURCE

Antiquitin (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Antiquitin of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-79398 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Antiquitin (C-18) is recommended for detection of Antiquitin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Antiquitin (C-18) is also recommended for detection of Antiquitin in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Antiquitin siRNA (h): sc-72507, Antiquitin shRNA Plasmid (h): sc-72507-SH and Antiquitin shRNA (h) Lentiviral Particles: sc-72507-V.

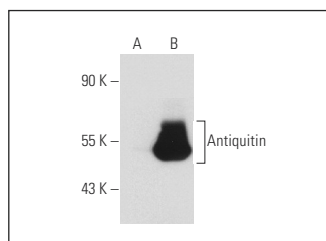
Molecular Weight of Antiquitin: 55 kDa.

Positive Controls: Antiquitin (h): 293T Lysate: sc-111586 or HeLa whole cell lysate: sc-2200.

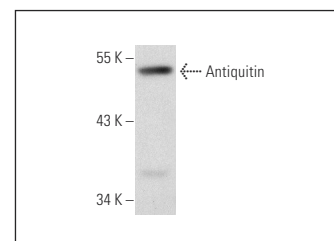
RECOMMENDED SECONDARY REAGENTS

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



Antiquitin (C-18): sc-79398. Western blot analysis of Antiquitin expression in non-transfected: sc-117752 (A) and human Antiquitin transfected: sc-111586 (B) 293T whole cell lysates.



Antiquitin (C-18): sc-79398. Western blot analysis of Antiquitin expression in HeLa whole cell lysate.

PROTOCOLS

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