SANTA CRUZ BIOTECHNOLOGY, INC.

ADO (C-14): sc-162492

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Human thiol dioxygenases include ADO (2-aminoethanethiol (cysteamine) dioxygenase) and CDO (cysteine dioxygenase). ADO adds two oxygen atoms to free cysteamine to form hypotaurine, whereas CDO adds two oxygen atoms to free cysteine. Encoded by a gene that maps to human chromosome 10q21.3, ADO is a 270 amino acid protein that is ubiquitously expressed, with highest levels in brain, heart and skeletal muscle. ADO is responsible for endogenous cysteamine dioxygenase activity and participates in metal ion binding, with iron as a cofactor. Overexpression of ADO in HepG2/C3A cells increases production of hypotaurine from cysteamine. Conversely, reduced expression of ADO decreases hypotaurine production.

REFERENCES

1. Gianfrancesco, F., et al. 2004. Emergence of Talanin protein associated with human uric acid nephrolithiasis in the Hominidae lineage. Gene 339: 131-138.
2. Castermans, D., et al. 2007. Identification and characterization of the TRIP8 and REEP3 genes on chromosome 10q21.3 as novel candidate genes for autism. Eur. J. Hum. Genet. 15: 422-431.
3. Dominy, J.E., et al. 2007. Discovery and characterization of a second mammalian thiol dioxygenase, cysteamine dioxygenase. J. Biol. Chem. 282: 25189-25198.
4. Rioux, J.D., et al. 2007. Genome-wide association study identifies new susceptibility loci for Crohn disease and implicates autophagy in disease pathogenesis. Nat. Genet. 39: 596-604.
5. Chin, M.H., et al. 2008. Mitochondrial dysfunction, oxidative stress, and apoptosis revealed by proteomic and transcriptomic analyses of the striata in two mouse models of Parkinson's disease. J. Proteome Res. 7: 666-677.
6. Ueki, I., et al. 2009. 3T3-L1 adipocytes and rat adipose tissue have a high capacity for taurine synthesis by the cysteine dioxygenase/cysteinesulfinate decarboxylase and cysteamine dioxygenase pathways. J. Nutr. 139: 207-214.
7. Stipanuk, M.H., et al. 2010. Thiol dioxygenases: unique families of cupin proteins. Amino Acids 41: 91-102.

CHROMOSOMAL LOCATION

Genetic locus: ADO (human) mapping to 10q21.3; Ado (mouse) mapping to 10 B5.1.

SOURCE

ADO (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ADO 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-162492 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ADO (C-14) is recommended for detection of ADO 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).

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

Suitable for use as control antibody for ADO siRNA (h): sc-90328, ADO siRNA (m): sc-140885, ADO shRNA Plasmid (h): sc-90328-SH, ADO shRNA Plasmid (m): sc-140885-SH, ADO shRNA (h) Lentiviral Particles: sc-90328-V and ADO shRNA (m) Lentiviral Particles: sc-140885-V.

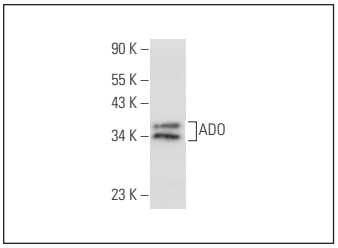
Molecular Weight of ADO: 28 kDa.

Positive Controls: human fetal brain tissue extract.

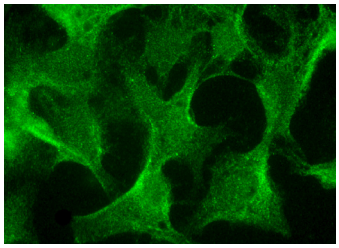
RECOMMENDED SECONDARY REAGENTS

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



ADO (C-14): sc-162492. Western blot analysis of ADO expression in human fetal brain tissue extract.



ADO (C-14): sc-162492. Immunofluorescence staining of formalinl-fixed Hep G2 cells showing cytoplasmic localization.

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.