SANTA CRUZ BIOTECHNOLOGY, INC.

ADO (E-11): sc-515318

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 Hep G2/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.

CHROMOSOMAL LOCATION

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

SOURCE

ADO (E-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 240-258 near the C-terminus of ADO of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ADO (E-11) is available conjugated to agarose (sc-515318 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515318 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515318 PE), fluorescein (sc-515318 FITC), Alexa Fluor® 488 (sc-515318 AF488), Alexa Fluor® 546 (sc-515318 AF546), Alexa Fluor® 594 (sc-515318 AF594) or Alexa Fluor® 647 (sc-515318 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515318 AF680) or Alexa Fluor® 790 (sc-515318 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515318 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ADO (E-11) is recommended for detection of ADO of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

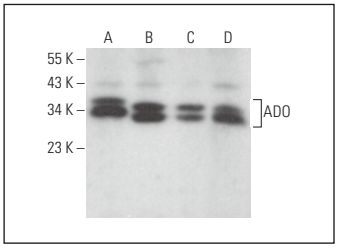
Molecular Weight of ADO: 28 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, NIH/3T3 whole cell lysate: sc-2210 or Caki-1 cell lysate: sc-2224.

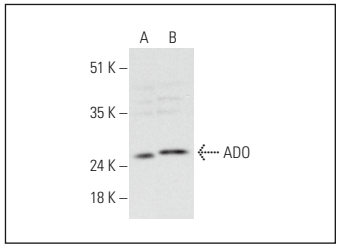
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ADO (E-11): sc-515318. Western blot analysis of ADO expression in NIH/3T3 (**A**), Neuro-2A (**B**), M1 (**C**) and C6 (**D**) whole cell lysates.



ADO (E-11): sc-515318. Western blot analysis of ADO expression in HUV-EC-C (**A**) and Caki-1 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Shen, D., et al. 2021. ADO/hypotaurine: a novel metabolic pathway contributing to glioblastoma development. Cell Death Discov. 7: 21.

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.