SANTA CRUZ BIOTECHNOLOGY, INC.

adenosine deaminase (N-19): sc-7450

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Adenosine deaminase is an enzyme that is present in most tissues. It exists predominantly as a monomer, although in some tissues it is associated with adenosine deaminase-binding protein. Adenosine deaminase degrades extracellular adenosine, which is toxic for lymphocytes. Adenosine deaminase also effects co-stimulatory signals in T cells via interactions with CD26. Deficiency of adenosine deaminase has been shown to lead to immunodeficiency diseases such as SCID (severe combined immunodeficiency disease) and has been associated with hereditary hemolytic anemia, a disease in which adenosine deaminase levels are elevated 50 to seventy fold.

REFERENCES

1. Daddona, P.E., et al. 1980. Analysis of normal and mutant forms of human adenosine deaminase- α review. Mol. Cell. Biochem. 29: 91-101.
2. Miwa, S. and Fujii, H. 1996. Molecular basis of erythroenzymopathies associated with hereditary hemolytic anemia: tabulation of mutant enzymes. Am. J. Hematol. 51: 122-132.
3. Resta, R. and Thompson, L.F. 1997. SCID: the role of adenosine deaminase deficiency. Immunol. Today 18: 371-374.
4. Dong, R.P., et al. 1997. Determination of adenosine deaminase binding domain on CD26 and its immunoregulatory effect on T cell activation. J. Immunol. 259: 6070-6076.
5. Franco, R., et al. 1998. Enzymatic and extraenzymatic role of ectoadenosine deaminase in lymphocytes. Immunol. Rev. 161: 27-42.
6. Morimoto, C. and Schlossman, S.F. 1998. The structure and function of CD26 in the T cell immune response. Immunol. Rev. 161: 55-70.

CHROMOSOMAL LOCATION

Genetic locus: ADA (human) mapping to 20q13.12.

SOURCE

Adenosine deaminase (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of adenosine deaminase 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-7450 P, (100 µg 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.

PROTOCOLS

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

APPLICATIONS

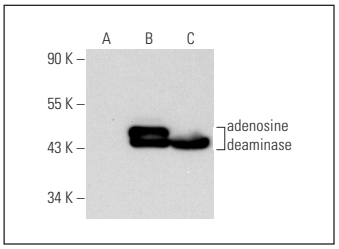
Adenosine deaminase (N-19) is recommended for detection of adenosine deaminase of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, 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 adenosine deaminase siRNA (h): sc-29644, adenosine deaminase shRNA Plasmid (h): sc-29644-SH and adenosine deaminase shRNA (h) Lentiviral Particles: sc-29644-V.

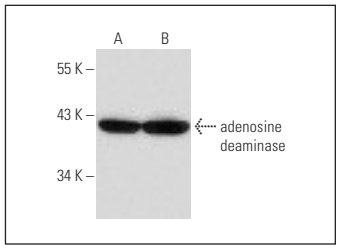
Molecular Weight of adenosine deaminase: 41 kDa.

Positive Controls: adenosine deaminase (h): 293T Lysate: sc-159789, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

DATA



adenosine deaminase (C-20): sc-7450. Western blot analysis of adenosine deaminase expression in non-transfected 293T: sc-117752 (**A**), human adenosine deaminase transfected 293T: sc-159789 (**B**) and Jurkat (**C**) whole cell lysates.



adenosine deaminase (C-20): sc-7450. Western blot analysis of adenosine deaminase expression in MOLT-4 (**A**) and Jurkat (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Galvagni, F., et al. 2002. The utrophin gene is transcriptionally upregulated in regenerating muscle. J. Biol. Chem. 277: 19106-19113.
2. Sbisa, E., et al. 2006. Connecting p63 to cellular proliferation: the example of the adenosine deaminase target gene. Cell Cycle 5: 205-212.
3. Carbonaro, D.A., et al. 2006. *In vivo* transduction by intravenous injection of a lentiviral vector expressing human ADA into neonatal ADA gene knockout mice: a novel form of enzyme replacement therapy for ADA deficiency. Mol. Ther. 13: 1110-1120.
4. Carter, M.E., et al. 2009. Sleep homeostasis modulates hypocretin-mediated sleep-to-wake transitions. J. Neurosci. 29: 10939-10949.

RESEARCH USE

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