

# adenosine deaminase (D-10): sc-376889

## 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 70 fold.

## REFERENCES

1. Daddona, P.E. and Kelly, W.N. 1980. Analysis of normal and mutant forms of human adenosine deaminase-a 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 (D-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 335-363 at the C-terminus of adenosine deaminase of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376889 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## 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](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

adenosine deaminase (D-10) is recommended for detection of adenosine deaminase of 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), 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).

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.

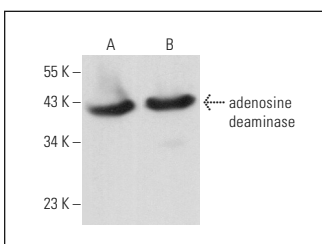
Molecular Weight of adenosine deaminase: 41 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

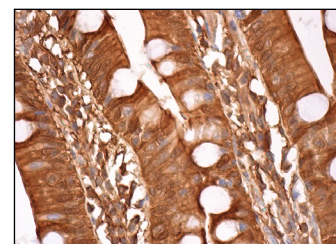
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



adenosine deaminase (D-10): sc-376889. Western blot analysis of adenosine deaminase expression in MOLT-4 (A) and CCRF-CEM (B) whole cell lysates.



adenosine deaminase (D-10): sc-376889. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic, membrane and nuclear staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Zhang, M.F., et al. 2018. Differentiation model establishment and differentiation-related protein screening in primary cultured human sebocytes. *Biomed Res. Int.* 2018: 7174561.

## RESEARCH USE

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