SANTA CRUZ BIOTECHNOLOGY, INC.

CDD (D-5): sc-365292

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytidine deaminase (CDD or CDA) is a member of the cytidine and deoxycytidylate deaminase family of proteins. CDD catalyzes the deamination of chemotherapeutic cytosine nucleoside analogs such as Ara-C and 5-azacytidine, which results in the loss of their cytotoxic and antitumor function. Ara-C is used in the treatment of acute myeloid leukemia (AML), and the antileukemic activity of the drug is contingent on phosphorylation by deoxycytidine kinase (DCK). Resistance to Ara-C is a major determinant of unsucessful AML treatment, the failure of which has been attributed to a DCK functional defect and increased CDD activity. CDD also scavenges endogenous and exogenous cytidine and 2'-deoxycytidine for UMP synthesis. CDD can form homotetramers and is mainly expressed in granulocytes.

CHROMOSOMAL LOCATION

Genetic locus: CDA (human) mapping to 1p36.12; Cda (mouse) mapping to 4 D3.

SOURCE

CDD (D-5) is a mouse monoclonal antibody raised against amino acids 1-146 representing full length CDD of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CDD (D-5) is available conjugated to agarose (sc-365292 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365292 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365292 PE), fluorescein (sc-365292 FITC), Alexa Fluor® 488 (sc-365292 AF488), Alexa Fluor® 546 (sc-365292 AF546), Alexa Fluor® 594 (sc-365292 AF594) or Alexa Fluor® 647 (sc-365292 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365292 AF680) or Alexa Fluor® 790 (sc-365292 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CDD (D-5) is recommended for detection of CDD 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), 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 CDD siRNA (h): sc-60341, CDD siRNA (m): sc-60342, CDD shRNA Plasmid (h): sc-60341-SH, CDD shRNA Plasmid (m): sc-60342-SH, CDD shRNA (h) Lentiviral Particles: sc-60341-V and CDD shRNA (m) Lentiviral Particles: sc-60342-V.

Molecular Weight of CDD monomer: 16 kDa.

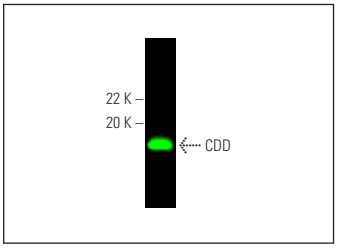
Molecular Weight of CDD homotetramer: 50-66 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or DU 145 cell lysate: sc-2268.

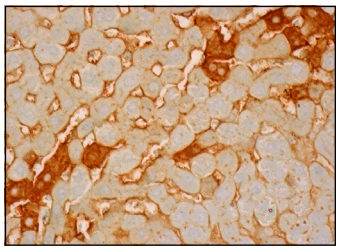
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



CDD (D-5): sc-365292. Near-infrared western blot analysis of CDD expression in DU 145 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



CDD (D-5): sc-365292. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic and membrane staining of hepatocytes and hepatic sinusoids.

SELECT PRODUCT CITATIONS

1. Mahfouz, R.Z., et al. 2013. Gender, cytidine deaminase, and 5-aza/decitabine—response. Clin. Cancer Res. 19: 3106-3107.
2. Sharma, S., et al. 2015. APOBEC3A cytidine deaminase induces RNA editing in monocytes and macrophages. Nat. Commun. 6: 6881.
3. Schneider, C., et al. 2017. SAMHD1 is a biomarker for cytarabine response and a therapeutic target in acute myeloid leukemia. Nat. Med. 23: 250-255.
4. Fatima, M., et al. 2019. Recombinant deoxyribonucleoside kinase from *Drosophila melanogaster* can improve gemcitabine based combined gene/chemotherapy for targeting cancer cells. Bosn. J. Basic Med. Sci. 19: 342-349.
5. Alkasalias, T., et al. 2022. Proof-of-principle studies on a strategy to enhance nucleotide imbalance specifically in cancer cells. Cell Death Discov. 8: 464.
6. Lei, L., et al. 2023. Transfer of miR-4755-5p through extracellular vesicles and particles induces decitabine resistance in recipient cells by targeting CDKN2B. Mol. Carcinog. 62: 743-753.
7. Zhan, X., et al. 2023. Crude polysaccharide from Danggui Buxue decoction enhanced the anti-tumor effect of gemcitabine by remodeling tumor-associated macrophages. Int. J. Biol. Macromol. 242: 125063.
8. Ligasová, A., et al. 2023. A new technique for the analysis of metabolic pathways of cytidine analogues and cytidine deaminase activities in cells. Sci. Rep. 13: 20530.
9. Ligasová, A., et al. 2025. The kinetics of uracil-N-glycosylase distribution inside replication foci. Sci. Rep. 15: 3026.

RESEARCH USE

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