SANTA CRUZ BIOTECHNOLOGY, INC.

VPRBP (C-8): sc-376850

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Infection by human immunodeficiency virus (HIV) is associated with an early immune dysfunction and progressive destruction of $CD4^+$ T lymphocytes. The HIV-induced, premature destruction of lymphocytes is associated with the continuous production of HIV viral proteins, which modulate apoptotic pathways. The virion-associated protein (Vpr), an accessory protein of HIV, affects viral replication, as well as cell growth, differentiation and apoptosis. Involved in the pathogenesis of T cell depletion in HIV-infected people, Vpr has been shown to enhance the nuclear transport of the HIV-1 pre-integration complex, activate transcription of cellular and viral promoters and arrest the cell cycle at the G_2/M checkpoint. VPRBP (Vpr (HIV-1) binding protein), also known as DCAF1 or RIP, is a 1,507 amino acid cytoplasmic protein that contains one LisH domain and functions as a Vrp binding protein. Expressed ubiquitously, VPRBP is thought to act as a receptor for the CUL-4-DDB1 complex and, in response to HIV infection, interacts with Vpr and may cause cell cycle arrest at the G_2 phase. Multiple isoforms of VPRBP exist due to alternative splicing events.

REFERENCES

1. Zhao, L.J., et al. 1994. Biochemical mechanism of HIV-I Vpr function. Specific interaction with a cellular protein. J. Biol. Chem. 269: 15577-15582.
2. Zhang, S., et al. 2001. Cytoplasmic retention of HIV-1 regulatory protein Vpr by protein-protein interaction with a novel human cytoplasmic protein VPRBP. Gene 263: 131-140.

CHROMOSOMAL LOCATION

Genetic locus: DCAF1 (human) mapping to 3p21.2; Vprbp (mouse) mapping to 9 F1.

SOURCE

VPRBP (C-8) is a mouse monoclonal antibody raised against amino acids 1101-1400 mapping near the C-terminus of VPRBP 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.

VPRBP (C-8) is available conjugated to agarose (sc-376850 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376850 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376850 PE), fluorescein (sc-376850 FITC), Alexa Fluor® 488 (sc-376850 AF488), Alexa Fluor® 546 (sc-376850 AF546), Alexa Fluor® 594 (sc-376850 AF594) or Alexa Fluor® 647 (sc-376850 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376850 AF680) or Alexa Fluor® 790 (sc-376850 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

VPRBP (C-8) is recommended for detection of VPRBP 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).

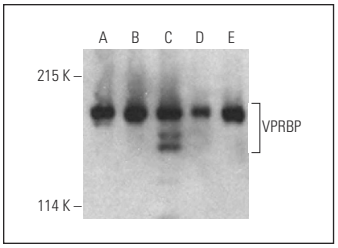
VPRBP (C-8) is also recommended for detection of VPRBP in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for VPRBP siRNA (h): sc-76898, VPRBP siRNA (m): sc-76899, VPRBP shRNA Plasmid (h): sc-76898-SH, VPRBP shRNA Plasmid (m): sc-76899-SH, VPRBP shRNA (h) Lentiviral Particles: sc-76898-V and VPRBP shRNA (m) Lentiviral Particles: sc-76899-V.

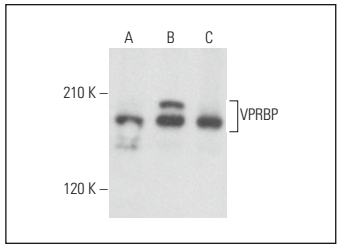
Molecular Weight of VPRBP: 180 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

DATA



VPRBP (C-8): sc-376850. Western blot analysis of VPRBP expression in BJAB (**A**), K-562 (**B**), PC-3 (**C**), A549 (**D**) and KNRK (**E**) whole cell lysates.



VPRBP (C-8): sc-376850. Western blot analysis of VPRBP expression in HeLa (**A**), K-562 (**B**) and PC-3 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hrecka, K., et al. 2016. HIV-1 and HIV-2 exhibit divergent interactions with HLTF and UNG2 DNA repair proteins. Proc. Natl. Acad. Sci. USA 113: E3921-E3930.
2. Chen, Y., et al. 2020. A small molecule Nrf2 activator BC-1901S ameliorates inflammation through DCAF1/Nrf2 axis. Redox Biol. 32: 101485.
3. Chen, Y., et al. 2021. A high-throughput screen for TMPRSS2 expression identifies FDA-approved compounds that can limit SARS-CoV-2 entry. Nat. Commun. 12: 3907.
4. Yi, J., et al. 2023. Targeting USP2 regulation of VPRBP-mediated degradation of p53 and PD-L1 for cancer therapy. Nat. Commun. 14: 1941.
5. Martinikova, A.S., et al. 2024. PPM1D activity promotes the replication stress caused by cyclin E1 overexpression. Mol. Oncol. 18: 6-20.

RESEARCH USE

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