

# VPRBP (C-8): sc-376850

## BACKGROUND

Infection by human immunodeficiency virus (HIV) is associated with an early immune dysfunction and progressive destruction of CD4<sup>+</sup>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<sub>2</sub>/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 Vpr 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<sub>2</sub> phase. Multiple isoforms of VPRBP exist due to alternative splicing events.

## REFERENCES

- Zhao, L.J., et al. 1994. Biochemical mechanism of HIV-1 Vpr function. Specific interaction with a cellular protein. *J. Biol. Chem.* 269: 15577-15582.
- 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<sub>2b</sub> 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<sup>®</sup> 488 (sc-376850 AF488), Alexa Fluor<sup>®</sup> 546 (sc-376850 AF546), Alexa Fluor<sup>®</sup> 594 (sc-376850 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-376850 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-376850 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-376850 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## 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).

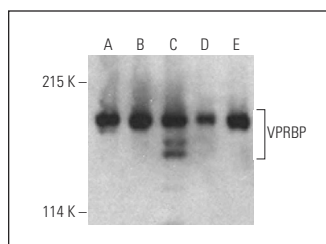
VPRBP (C-8) is also recommended for detection of VPRBP in additional species, including equine, bovine and porcine.

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.

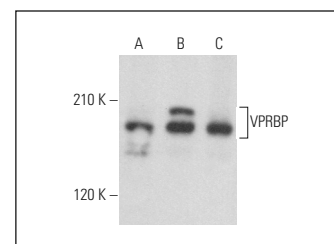
Molecular Weight of VPRBP: 180 kDa.

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

- 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.
- Zhou, X., et al. 2017. HIV-1 Vpr protein directly loads helicase-like transcription factor (HLTF) onto the CRL4-DCAF1 E3 ubiquitin ligase. *J. Biol. Chem.* 292: 21117-21127.
- Yan, J., et al. 2018. HIV-1 Vpr reprograms CLR4<sup>DCAF1</sup> E3 ubiquitin ligase to antagonize exonuclease 1-mediated restriction of HIV-1 infection. *MBio* 9: e01732-18.
- Chen, Y., et al. 2020. A small molecule Nrf2 activator BC-1901S ameliorates inflammation through DCAF1/Nrf2 axis. *Redox Biol.* 32: 101485.
- 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.

## RESEARCH USE

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