COSMO BIO CO., LTD.
Inspiration for Life Science

MONOCLONAL ANTIBODY

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Catalog No. NCG-M01

Anti Vpr (HIV-1)

BACKGROUND

Viral Protein R (Vpr), an accessory gene of human immunodeficiency virus type 1 (HIV-1), encodes a virion-associated nuclear protein with a variety of biological functions. Forced expression of Vpr induces cell cycle abnormalities at the G2/M phase, apoptosis and nuclear transportation of the pre-integration complex. Vpr is a transacting factor, and exogenously added Vpr can also induce apoptosis. It has been reported that Vpr is present in blood and cerebrospinal fluids of HIV-1 positive patients and also proposed that Vpr is linked with functional abnormality of central nervous system of the patients.

Product type	Primary antibodies
Immunogen	Vpr peptide
Rased in	Mouse
Myeloma	P3U1
Clone number	8D1
Isotype	IgG2a, *k*
Host	-
Source	Serum free culture supernatant
Purification	Protein G
Buffer	PBS containing 0.02% NaN_3 as a preservative
Concentration	1 mg / mL
Volume	50 uL
Label	Unlabeled
Specificity	Vpr
Cross reactivity	-
Storage	Store below -20℃ (below -70℃ for prolonged storage) Aliquot to avoid cycles of freeze/thaw.
Other	**Data Link** : UniProtKB/Swiss-Prot G9E2V1

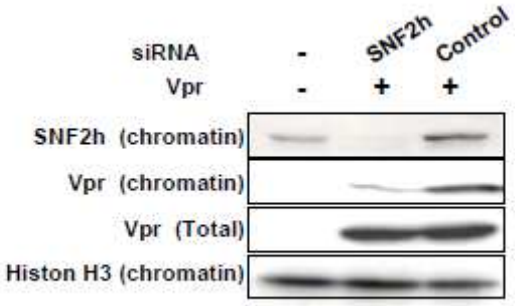
Application notes
Recommended dilutions

- **Western blotting:** 1/200 - 1/100 (Ref.1, Fig. 1)
- **Fluorescence - activated cell sorter:** 5 ug/ml (Ref. 1)
- **Immunoprecipitation:** 5 ug/Vpr 20 ng

Other applications have not been tested.
Optimal dilutions/concentrations should be determined by the end user.

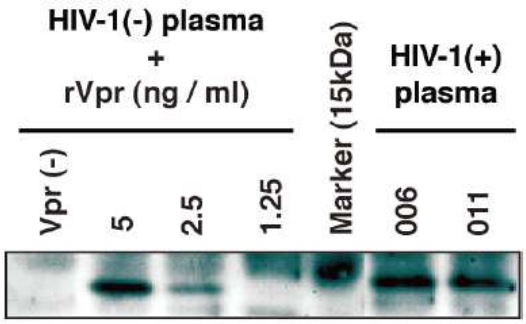
References

1) Daiki Taneichi, *et al,* Identification of SNF2h, a Chromatin-Remodeling Factor, as a Novel Binding Protein of Vpr of Human Immunodeficiency Virus Type 1 *J Neuroimmune Pharmacol* (2011) 6:177.187 **PMID: 21519849**
2) Mari Shimura, *et al,* Epigenetic displacement of HP1 from heterochromatin by HIV-1 Vpr causes premature sister chromatid separation *J Cell Biol*. 2011 Sep 5; 194(5):721-35. Epub 2011 Aug 29. **PMID: 21875947**
3) Tram N. Q. Pham, *et al*, Modulation of NKG2D-Mediated Cytotoxic Functions of Natural Killer Cells by Viral Protein R from HIV-1 Primary Isolates: *J.Virol. 85: 12254-12261, 2011* **PMID: 21957298**
4) Shigeki Hoshino, *et al,* HIV-1 Vpr induces TLR4/MyD88-mediated IL-6 production and reactivates viral production from latency *J Leukoc Biol.* 87:1133-1143, 2010 **PMID: 20145198**
5) Hoshino, S., *et al,* Vpr in plasma of HIV-1-positive patients is correlated with the HIV-1 RNA titers. AIDS Res. Hum. Retrovir. 23, 391-397, 2007. **PMID: 17411372**



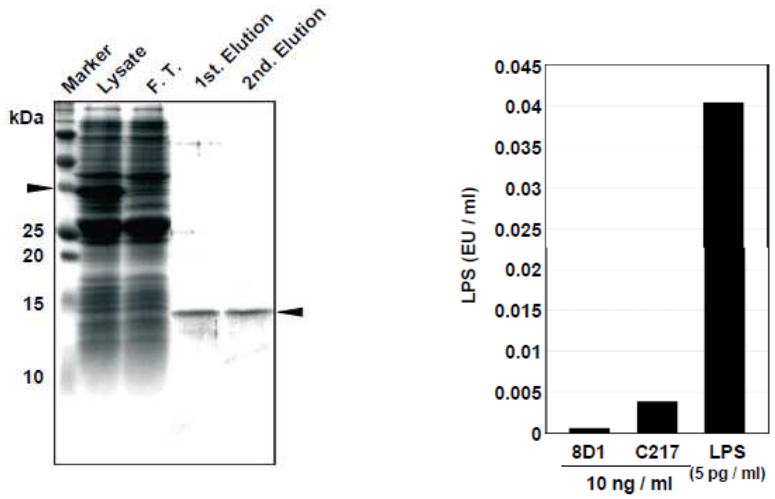
lane 1 vector control
lane 2 pCMV-Vpr with SNF2h siRNA
lane 3 pCMV-Vpr with control siRNA.

Fig.1 Western blotting with 8D1 antibody using whole cell extracts of Chromatin fraction.
Chromatin fraction was prepared from HEK293T cells to which pCMV-Vpr with control and SNF2h siRNAs were transfected. (Ref. 1 Fig. 3)



lane 1 rVpr (-)
lane 2 5 ng of standard rVpr
lane 3 2.5 ng of standard rVpr .
lane 4 1.25 ng of standard rVpr .
lane 5 Molecular marker.
lane 6 HIV-1-positive plasma #006
lane 7 HIV-1-positive plasma #011

Fig.2 Detection (or *IP-WB analysis*) of Vpr in plasma of HIV-1-positive patients.
A definite signal of the 14-kDa protein was observed in patients #006 and #011 (Ref. 5 Fig. 1)



1st. Elution: Glutathione column
2nd. Elution: 8D1 affinity column
8D1: anti-Vpr monovlonal antibody Cat# NCG-M01
C217: anti-Vpr monovlonal antibody

Fig.3 LPS-free Vpr protein purification using a glutathione column and an affinity column with anti-Vpr antibody (8D1) (Ref. 4 Fig. 1)

RELATED PRODUCTS:

Maker	Product Name	Cat#
BAM	Anti HIV-1 Reverse Transcriptase Polyclonal Antibody	65-001, 65-002, 65-003
BAM	Anti HIV-1 Gag p15 Polyclonal Antibody	65-011, 65-012
BAM	Anti HIV-1 Gag p17 Polyclonal Antibody	65-008, 65-009, 65-010
BAM	Anti HIV-1 Gag p24 Polyclonal Antibody	65-004, 65-005, 65-006
BAM	Anti HIV-1 Gag p24 Polyclonal Antibody (biotin-conjugated IgG)	65-021
BAM	Anti HIV-1 Gag p55 Polyclonal Antibody	65-013, 65-014
BAM	Anti HIV-1 Nef Polyclonal Antibody	65-015, 65-016, 65-017
BAM	HIV-1 Reverse Transcriptase	05-001, 05-002
BAM	HIV-1 Gag p15	05-007, 05-008
BAM	HIV-1 Gag p17	05-003, 05-004
BAM	HIV-1 Gag p24	05-005, 05-006
BAM	HIV-1 Gag p55	05-009, 05-010
BAM	HIV-1Nef	05-011, 05-012

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