

KSHV ORF45 Antibody

Purified Mouse Monoclonal Antibody

Catalog # AO1016a

Product Information

Application	WB, IHC, E
Primary Accession	F5HDE4
Host	Mouse
Clonality	Monoclonal
Clone Names	2D4A5
Isotype	IgG1
Calculated MW	43327
Description	Kaposi's sarcoma-associated herpesvirus (KSHV) belongs to the gamma-(2)-herpesvirus subfamily and has been closely linked to the Kaposi's sarcoma, primary effusion lymphoma (PEL) and multicentric Castleman's disease. The genome of KSHV is 165-170 kb and contains at least 88 open reading frames. ORF45 protein encoded by an immediate-early gene in the KSHV genome is characterized as a phosphorylated protein, and it is localized in the cytoplasm of infected cells. Studies have shown that ORF45 Protein interacted with cellular IRF-7 and blocked virus-mediated phosphorylation and nuclear translocation of IRF-7. In consequence, ORF45 efficiently inhibited virus-induced production of type I IFN. Zhu et al (2003) reported that the ORF45 Protein was associated with purified virions
Immunogen	Purified recombinant fragment of KSHV ORF45 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	4961474
Other Names	Protein ORF45, ORF45
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	KSHV ORF45 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ORF45
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Function

Prevents the establishment of cellular antiviral state by blocking virus-induced phosphorylation and activation of host interferon regulatory factor 7/IRF7, a transcription factor critical for the induction of interferons alpha and beta (PubMed:[11943871](#), PubMed:[20485504](#), PubMed:[22787218](#)). Mechanistically, ORF45 competes with the associated IRF7 and inhibits its phosphorylation by IKKε or TBK1 by acting as an alternative substrate (PubMed:[11943871](#), PubMed:[22787218](#)). Acts as an activator of the NLRP1 inflammasome via interaction with the N-terminal part of host NLRP1: interaction promotes translocation of the N-terminal part of NLRP1 into the nucleus, relieving autoinhibition of the NLRP1 inflammasome and leading to its activation (PubMed:[35618833](#)). Also plays a role in promoting the late transcription and translation of viral lytic genes by constitutively activating host extracellular signal-regulated kinase (ERK)-p90 ribosomal S6 kinase/RPS6KA1 (PubMed:[30842327](#)). In addition, supports the viral replication cycle by modulating host p53/TP53 signaling pathway (PubMed:[34523970](#)). Interacts with host p53/TP53 and prevents its interaction with the deubiquitinase USP7, leading to sequestration of P53/TP53 in the host cytoplasm thereby diminishing its transcriptional activity (PubMed:[34523970](#)).

Cellular Location

Virion tegument. Host cytoplasm. Host nucleus. Host Golgi apparatus

References

1. Chang Y. et al. 1994. Science. 266:1865-1869. 2. Zhu FX. et al. 2002. PNAS. 99: 5573-5578. 3. Zhu FX. et al. J Virol. 2003. April (77): 4221-4230.

Images

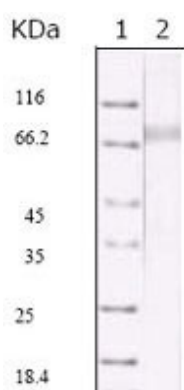


Figure 1: Western blot analysis using KSHV ORF45 mouse mAb against KSHV ORF45 recombinant protein.

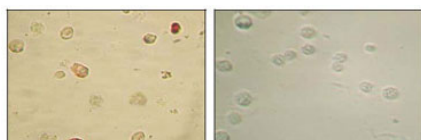


Figure 2: Immunocytochemistry analysis of TPA induced BCBL-1 cells (A) and uninduced BCBL-1 cells (B) using KSHV ORF45 mouse mAb with AEC staining.

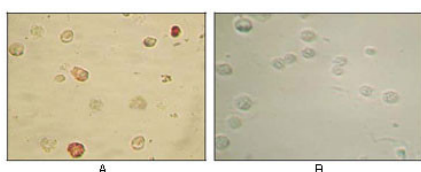


Figure 2: Immunocytochemistry analysis of TPA induced BCBL-1 cells(A) and uninduced BCBL-1 cells(B) using anti-KSHV ORF45 monoclonal antibody with AEC staining.