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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

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 IKBKE 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

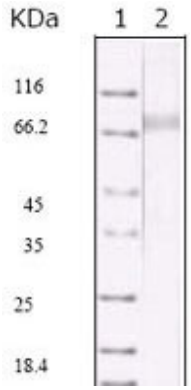


Figure 1: Western blot analysis using KSHV ORF45 mouse mAb against KSHV ORF45 recombinant protein.

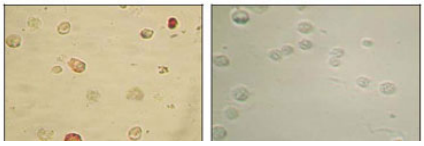


Figure 2: Immunocytochemistry analysis of TPA induced BCBL-1 cells (A) and uninduced BCBL-1 cells (B) using KSHV ORF45 mouse mAb with AEC staining.

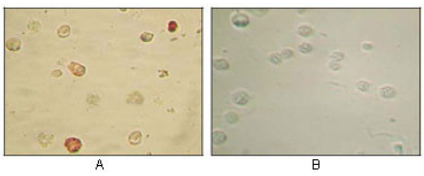


Figure 2: Immunocytochemistry analysis of TPA induced BCBL-1 cells(A) and uninduced BCBL-1 cells(B) using anti-KSHV ORF45 monoclonal antibody with AEC staining.

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