abcam

ab316860

Anti-EBV Nuclear Antigen/EBNA1 antibody [EPR28706-78]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR28706-78
Purification technique	Affinity purification Protein A
Concentration	0.508 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Transfected cell lysate - Epstein-Barr Virus (Strain B95-8)
Dilution info	1/1000
Notes	-

Predicted

Species	Epstein-Barr Virus (Strain B95-8)
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell line - Epstein-Barr Virus (Strain B95-8), Synthetic peptide - Epstein-Barr Virus (Strain B95-8)
Dilution info	-
Notes	-

IHC-P

Tested

Species	Transfected cell line - Epstein-Barr Virus (Strain B95-8)
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Predicted

Species	Epstein-Barr Virus (Strain B95-8)
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Epstein-Barr Virus (Strain B95-8), Synthetic peptide - Epstein-Barr Virus (Strain B95-8)
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Transfected cell line - Epstein-Barr Virus (Strain B95-8)
Dilution info	1/4000
Notes	-

Predicted

Species	Epstein-Barr Virus (Strain B95-8)
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Epstein-Barr Virus (Strain B95-8), Synthetic peptide - Epstein-Barr Virus (Strain B95-8)
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Transfected cell line - Epstein-Barr Virus (Strain B95-8)
Dilution info	1/5000
Notes	-

Predicted

Species	Epstein-Barr Virus (Strain B95-8)
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Epstein-Barr Virus (Strain B95-8), Synthetic peptide - Epstein-Barr Virus (Strain B95-8)

Dilution info	-
Notes	-

I-ELISA

Tested

Species	Synthetic peptide - Epstein-Barr Virus (Strain B95-8)
Dilution info	1 µg/mL
Notes	-

Predicted

Species	Epstein-Barr Virus (Strain B95-8)
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Epstein-Barr Virus (Strain B95-8), Transfected cell line - Epstein-Barr Virus (Strain B95-8)
Dilution info	-
Notes	-

IP

Not recommended

Species	Transfected cell lysate - Epstein-Barr Virus (Strain B95-8), Epstein-Barr Virus (Strain B95-8), Transfected cell line - Epstein-Barr Virus (Strain B95-8), Synthetic peptide - Epstein-Barr Virus (Strain B95-8)
Dilution info	-
Notes	-

Target data

See full target information EBV Nuclear Antigen/EBNA1

Function	Responsible for the origin of replication (oriP) dependent replication and maintenance of viral episomes during latent infection (PubMed:15479791, PubMed:2996781). EBNA1 dimer interacts with the DS (dyad symmetry) element within the origin of replication oriP and with a host mitotic chromosome to initiate viral DNA replication during latency (PubMed:24067969, PubMed:2996781, PubMed:31142669, PubMed:8551585). EBNA1 binding to DS recruits the host origin recognition complex (ORC) (PubMed:12953058). Governs the faithful mitotic segregation of the viral episomes by binding both the FR (family of repeats) element within oriP and the host mitotic chromosomes (PubMed:11172042, PubMed:15479791, PubMed:24067969). Forms a cell cycle-dependent tyrosine-dependent DNA cross-link and single-strand cleavage at oriP required for terminating replication and maintaining viral episomes (PubMed:33482082). Counteracts the stabilization of host p53/TP53 by host USP7, thereby decreasing apoptosis and increasing host cell survival (PubMed:15808506). Induces degradation of host PML through the ubiquitin-proteasome system, which promotes lytic reactivation and may impair the host cell DNA repair (PubMed:18833293). Increases the association of CK2 with PML proteins which increases the phosphorylation of PML proteins by CK2, triggering the polyubiquitylation and degradation of PML (PubMed:20719947). Displays inhibitory effects on a SUMO2-modified complex that includes STUB1, KAP1 and USP7 (PubMed:32176739). This inhibitory effect possibly participates to the maintenance of latency linked to PML silencing (PubMed:32176739).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility

- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	EBV Nuclear Antigen 1 (EBNA1) is a protein expressed by the Epstein-Barr Virus (EBV) also known as Human Herpesvirus 4. It has a molecular weight of approximately 80 kDa and shows expression in latently infected cells. EBNA1 acts as a viral episome-maintenance protein that binds to the EBV genome ensuring viral DNA replication and partitioning during cell division. This protein facilitates the persistent infection of EBV in host cells. Occasionally it is also referred to as EBV EBNA or EBNA-1 protein.
Biological function summary	EBNA1 functions as an EBV-specific DNA-binding protein essential for maintaining the viral episome within infected cells. EBNA1 plays a role in gene regulation by interacting with specific DNA sequences called oriP to assist in the replication and maintenance of the viral DNA. It does not form part of a larger protein complex but strongly influences cellular processes through these interactions. EBNA1 ensures the survival and propagation of the virus without immediate cytopathic effects contributing to its long-term persistence.
Pathways	EBNA1 is central to viral latency and replication pathways in host cells. EBNA1 influences both the EBV lytic and latent cycles maintaining the latency by stabilizing the viral episome within the nucleus of host cells and regulating viral gene expression. It interacts with cellular proteins like USP7 a deubiquitinase important for the regulation of EBNA1 stability and function. These pathways highlight EBNA1's role in the balance between viral latency and active replication.
Associated diseases and disorders	EBNA1 is closely associated with several EBV-related cancers such as Burkitt's lymphoma and nasopharyngeal carcinoma. The persistent expression of EBNA1 contributes to oncogenic processes by disrupting normal cellular control mechanisms. EBNA1's interaction with p53 a tumor suppressor protein can interfere with the host's cell-cycle regulation and apoptosis allowing for malignant transformation. These interactions illustrate EBNA1's significant role in the pathogenesis of disorders linked to EBV infection.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

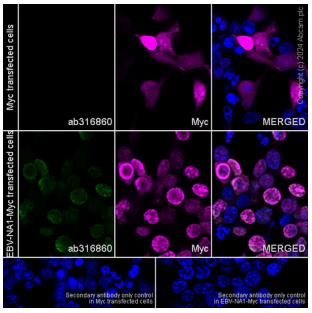
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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8 product images



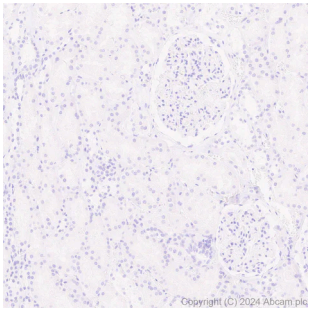
Immunocytochemistry/ Immunofluorescence - Anti-EBV Nuclear Antigen/EBNA1 antibody [EPR28706-78] (ab316860)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T (human embryonic kidney epithelial cell) transfected with an EBV Nuclear Antigen/EBNA1 expression vector containing a myc-His-tag®. cells labelling EBV Nuclear Antigen/EBNA1 with ab316860 at 1/4000 (0.13 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green).

Confocal image showing positive staining in 293T cells transfected with an EBV Nuclear Antigen/EBNA1 expression vector containing a myc-His-tag®.
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab223894 Anti-Myc tag mouse monoclonal antibody (Alexa Fluor® 594) was used to counterstain at 1/100 (5ug/ml) dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EBV Nuclear Antigen/EBNA1 antibody [EPR28706-78] (ab316860)

EBV Nuclear Antigen/EBNA1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human kidney using rabbit Anti-EBV Nuclear Antigen/EBNA1 antibody

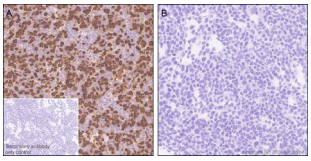
Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling EBV Nuclear Antigen/EBNA1 with ab316860 at 1/2000 (0.26 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on human kidney.
The section was incubated with ab316860 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EBV Nuclear Antigen/EBNA1 antibody [EPR28706-78] (ab316860)

EBV Nuclear Antigen/EBNA1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-EBV Nuclear Antigen/EBNA1 antibody

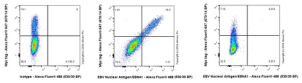
Immunohistochemical analysis of paraffin-embedded (A) HEK-293T (human embryonic kidney epithelial cell) transfected with an EBV Nuclear Antigen/EBNA1 expression vector containing a myc-His-tag®. (B) HEK-293T transfected with an empty vector containing a myc-His-tag®. tissue labeling EBV Nuclear Antigen/EBNA1 with ab316860 at 1/2000 (0.26 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on (A) HEK-293T transfected with an EBV Nuclear Antigen/EBNA1 expression vector containing a myc-His-tag®. No staining on (B) HEK-293T transfected with an empty vector containing a myc-His-tag®.
The section was incubated with ab316860 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



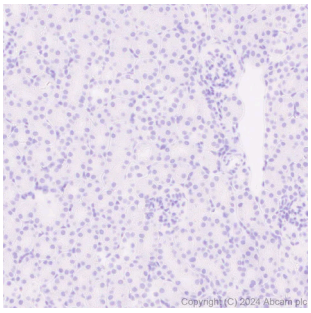
Flow Cytometry (Intracellular) - Anti-EBV Nuclear Antigen/EBNA1 antibody [EPR28706-78] (ab316860)

EBV Nuclear Antigen/EBNA1 Flow Cytometry (Intracellular) staining using rabbit Anti-EBV Nuclear Antigen/EBNA1 antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Isotype (Left) / 293T cells transfected with an EBV Nuclear Antigen/EBNA1 expression vector containing a myc-His-tag® (Middle) / 293T cells transfected with an empty expression vector containing a myc-His-tag® (Right) cells labelling EBV Nuclear Antigen/EBNA1 with ab316860 at 1/5000 dilution (0.01 ug)/Middle and Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control.

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Cells are co-stained with Myc tag conjugated to Alexa Fluor®647.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EBV Nuclear Antigen/EBNA1 antibody [EPR28706-78] (ab316860)

EBV Nuclear Antigen/EBNA1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse kidney using rabbit Anti-EBV Nuclear Antigen/EBNA1 antibody

Immunohistochemical analysis of paraffin-embedded Mouse kidney tissue labeling EBV Nuclear Antigen/EBNA1 with ab316860 at 1/2000 (0.26 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

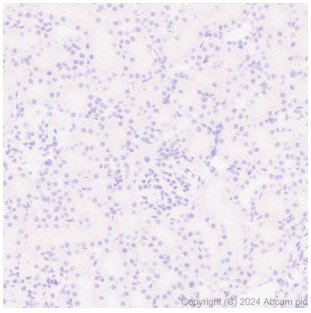
Negative control: no staining on mouse kidney.
The section was incubated with ab316860 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EBV Nuclear Antigen/EBNA1 antibody [EPR28706-78] (ab316860)

EBV Nuclear Antigen/EBNA1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat kidney using rabbit Anti-EBV Nuclear Antigen/EBNA1 antibody

Immunohistochemical analysis of paraffin-embedded Rat kidney tissue labeling EBV Nuclear Antigen/EBNA1 with ab316860 at 1/2000 (0.26 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

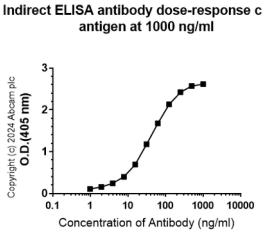
Negative control: no staining on rat kidney.
The section was incubated with ab316860 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

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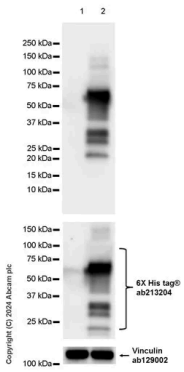


Indirect ELISA - Anti-EBV Nuclear Antigen/EBNA1 antibody [EPR28706-78] (ab316860)

Indirect ELISA analysis of ab316860 at 1000-0 ng/ml. The Secondary antibody used was Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) at 1:2500 dilution.

Antigen: EBV Nuclear Antigen/EBNA1.

Antigen concentration: 1000 ng/ml



Western blot - Anti-EBV Nuclear Antigen/EBNA1 antibody [EPR28706-78] (ab316860)

EBV Nuclear Antigen/EBNA1 Western blot staining using rabbit Anti-EBV Nuclear Antigen/EBNA1 antibody

In Western blot, Anti-Vinculin antibody [EPR8185] (ab129002) staining at 1/10000 dilution.

In Western blot, Anti-6X His tag antibody [EPR20547]-CHIP Grade (ab213204) staining at 1/5000 dilution.

All lanes:
Western blot - Anti-EBV Nuclear Antigen/EBNA1 antibody [EPR28706-78] (ab316860) at 1/1000 dilution

Lane 1:
293T cells transfected with an empty vector containing a myc-His-tag®, whole cell lysate at 20 µg

Lane 2:
293T cells transfected with an EBV Nuclear Antigen/EBNA1 expression vector containing a myc-His-tag®, whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 20-70 kDa, 124 kDa

Exposure time: 3s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.