abcam

ab309159

Anti-HIV1 p55 + p24 +p17 antibody [RM2002]

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	Multiclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM2002
Purification technique	Affinity purification Protein A
Concentration	0.512 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Transfected cell line - Human immunodeficiency virus
Dilution info	1/50
Notes	-

Species	Human immunodeficiency virus

Dilution info	1/50
Notes	-

Not recommended

Species	Recombinant fragment - Human immunodeficiency virus, Transfected cell lysate - Human immunodeficiency virus
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Transfected cell line - Human immunodeficiency virus
Dilution info	1/500
Notes	-

Species	Human immunodeficiency virus
Dilution info	1/500
Notes	-

Not recommended

Species	Recombinant fragment - Human immunodeficiency virus, Transfected cell lysate - Human immunodeficiency virus
Dilution info	-
Notes	-

IHC-P

Tested

Species	Transfected cell line - Human immunodeficiency virus
Dilution info	1/5000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human immunodeficiency virus
Dilution info	1/5000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Recombinant fragment - Human immunodeficiency virus, Transfected cell lysate - Human immunodeficiency virus
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant fragment - Human immunodeficiency virus
Dilution info	1/1000
Notes	-

Species	Transfected cell lysate - Human immunodeficiency virus
Dilution info	1/1000
Notes	-

Species	Human immunodeficiency virus
Dilution info	1/1000
Notes	-

Not recommended

Species	Transfected cell line - Human immunodeficiency virus
Dilution info	-
Notes	-

I-ELISA

Tested

Species	Recombinant fragment - Human immunodeficiency virus
Dilution info	1000 ng/mL
Notes	Use at 250 ng/ml.

Expected

Species	Human immunodeficiency virus
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Transfected cell line - Human immunodeficiency virus, Transfected cell lysate - Human immunodeficiency virus
Dilution info	-
Notes	-

Target data

See full target information gag

Function

Gag polyprotein. Mediates, with Gag-Pol polyprotein, the essential events in virion assembly, including binding the plasma membrane, making the protein-protein interactions necessary to create spherical particles, recruiting the viral Env proteins, and packaging the genomic RNA via direct interactions with the RNA packaging sequence (Psi). Matrix protein p17. Targets the polyprotein to the plasma membrane via a multipartite membrane-binding signal, that includes its myristoylated N-terminus (By similarity). Matrix protein is part of the pre-integration complex. Implicated in the release from host cell mediated by Vpu. Binds to RNA (By similarity). Capsid protein p24. Forms the conical core that encapsulates the genomic RNA-nucleocapsid complex in the virion. Most core are conical, with only 7% tubular. The core is constituted by capsid protein hexamer subunits. The core is disassembled soon after virion entry (By similarity). The capsid promotes immune invasion by cloaking viral DNA from CGAS detection (By similarity). Host restriction factors such as TRIM5-alpha or TRIMCyp bind retroviral capsids and cause premature capsid disassembly, leading to blocks in reverse transcription. Capsid restriction by TRIM5 is one of the factors which restricts HIV-1 to the human species. Host PIN1 apparently facilitates the virion uncoating (By similarity). On the other hand, interactions with PDZD8 or CYPA stabilize the capsid (By similarity). Nucleocapsid protein p7. Encapsulates and protects viral dimeric unspliced genomic RNA (gRNA). Binds these RNAs through its zinc fingers. Acts as a nucleic acid chaperone which is involved in rearangement of nucleic acid secondary structure during gRNA retrotranscription. Also facilitates template

switch leading to recombination. As part of the polyprotein, participates in gRNA dimerization, packaging, tRNA incorporation and virion assembly. p6-gag. Plays a role in budding of the assembled particle by interacting with the host class E VPS proteins TSG101 and PDCD6IP/AIP1.

Storage

Shipped at conditions	Blue Ice
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

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

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.

Supplementary info

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

Activity summary	HIV-1 p24 HIV-1 p17 and HIV-1 p55 are essential proteins in the lifecycle of the Human Immunodeficiency Virus type 1 (HIV-1). HIV-1 p24 also known as the capsid protein weighs approximately 24 kDa and forms the conical core that houses viral genetic material. HIV-1 p17 or the matrix protein is around 17 kDa and contributes

	to the viral envelope's structure aiding in its formation and stabilization during the virus assembly. HIV-1 p55 known as the Gag polyprotein weighs around 55 kDa and is expressed in host cells infected by the virus. It undergoes proteolytic cleavage to produce p24 and p17 alongside other structural proteins which are critical for viral assembly and maturation.
Biological function summary	These proteins play instrumental roles in HIV-1's replication and assembly. HIV-1 p24 and p17 form part of the Gag protein complex which is necessary for particle formation and genome packaging. The p55 Gag precursor orchestrates virion assembly at the plasma membrane of the host cell. The Gag polyprotein drives the budding process where newly formed virions detach from the host cell becoming infectious particles. This compartmentalization of functions results in efficient regulation and production of new viral particles ensuring the perpetuation of infection.
Pathways	These proteins function within the viral replication and assembly pathway an important aspect for HIV-1's lifecycle. The Gag polyprotein is significantly involved in the budding and maturation of the virus coordinating with host cell factors and other viral proteins like HIV-1 reverse transcriptase. This interplay is essential for the replication cycle. Additionally interactions with the cellular ESCRT (endosomal sorting complexes required for transport) pathway facilitate the release of virions highlighting their role in efficient viral propagation.
Associated diseases and disorders	These proteins are intimately connected to the pathogenesis of acquired immunodeficiency syndrome (AIDS). HIV-1 targets CD4+ T cells leading to immune system dysfunction. The p24 protein serves as a biomarker for infection detectable during seroconversion. The immune response to these proteins correlates with disease progression wherein levels of p24 can indicate viral load. Additionally the expression and processing of these proteins relate to resistance mechanisms in highly active antiretroviral therapy (HAART). The interplay of Gag with proteins like HIV-1 integrase is critical for understanding therapeutic targets since these interactions facilitate the integration of viral DNA into the host genome.

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

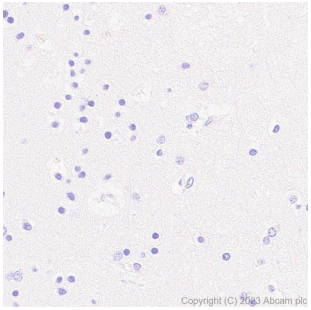
We do not recommend this combination. It is not covered by our product promise.

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:
Terms & Conditions.

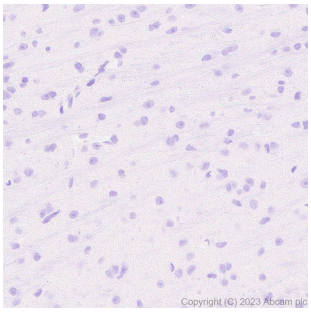
9 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HIV1 p55 + p24 +p17 antibody [RM2002] (ab309159)

HIV1 p55 + p24 +p17 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human cerebrum using rabbit Anti-HIV1 p55 + p24 +p17 antibody

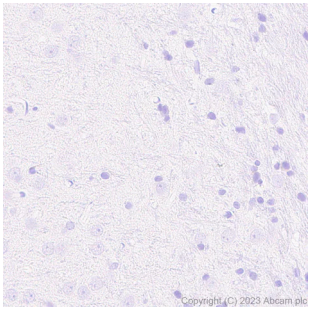
Immunohistochemical analysis of paraffin-embedded Human cerebrum tissue labeling HIV1 p55 + p24 +p17 with ab309159 at 1/5000 (0.102 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: no staining on human cerebrum. The section was incubated with ab309159 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-HIV1 p55 + p24 +p17 antibody [RM2002] (ab309159)

HIV1 p55 + p24 +p17 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse cerebrum using rabbit Anti-HIV1 p55 + p24 +p17 antibody

Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labeling HIV1 p55 + p24 +p17 with ab309159 at 1/5000 (0.102 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: no staining on mouse cerebrum. The section was incubated with ab309159 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.

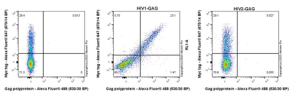


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HIV1 p55 + p24 +p17 antibody [RM2002] (ab309159)

HIV1 p55 + p24 +p17 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat cerebrum using rabbit Anti-HIV1 p55 + p24 +p17 antibody

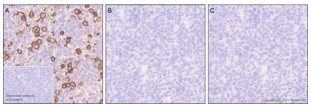
Immunohistochemical analysis of paraffin-embedded Rat cerebrum tissue labeling HIV1 p55 + p24 +p17 with ab309159 at 1/5000 (0.102 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: no staining on rat cerebrum. The section was incubated with ab309159 for 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.



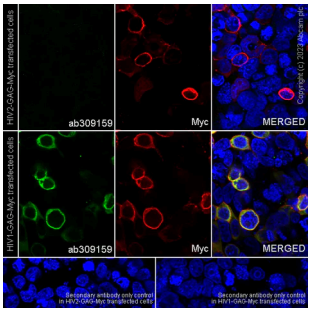
Flow Cytometry (Intracellular) - Anti-HIV1 p55 + p24 +p17 antibody [RM2002] (ab309159)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Isotype control (Left) / HEK-293T (human embryonic kidney epithelial cell line) transfected with a HIV1-GAG expression vector containing a his tag (Middle) / HEK-293T transfected with a HIV2-GAG expression vector containing a his tag (Right) cells labeling HIV1 p55 + p24 +p17 with ab309159 at 1/50 dilution (1 ug)/Right (Red) compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody. Cells were co-stained with anti-Myc conjugated to 647.



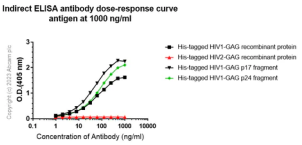
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HIV1 p55 + p24 +p17 antibody [RM2002] (ab309159)

Immunohistochemical analysis of paraffin-embedded (A) HEK-293T (human tissue labeling HIV1 p55 + p24 +p17 with ab309159 at 1/5000 (0.102 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on (A) HEK-293T transfected with a HIV1-GAG His tag construct, no staining on (B) HEK-293T transfected with a HIV2-GAG His tag construct and (C) HEK-293T transfected with empty plasmid. The section was incubated with ab309159 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.



Immunocytochemistry/ Immunofluorescence - Anti-HIV1 p55 + p24 +p17 antibody [RM2002] (ab309159)

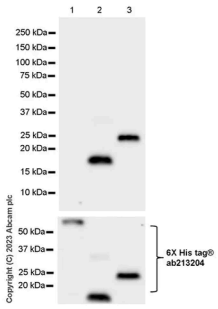
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T (human embryonic kidney epithelial cell) cells labeling HIV1 p55 + p24 +p17 with ab309159 at 1/500 (1.024 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing cytoplasmic staining in 293T cells transfected with a HIV1-GAG expression vector containing a myc tag, and no staining in 293T cells transfected with a HIV2-GAG expression vector containing a myc tag.Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). Myc-Tag Mouse mab (Alexa Fluor® 647) was used to counterstain tubulin at 1/100 0.38ug/ml dilution (Red). 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.



Indirect ELISA - Anti-HIV1 p55 + p24 +p17 antibody [RM2002] (ab309159)

Indirect ELISA analysis of ab309159 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: His-tagged HIV1-GAG recombinant protein, His-tagged HIV2-GAG recombinant protein, His-tagged HIV1-GAG p17 fragment, His-tagged HIV1-GAG p24 fragment.

Antigen concentration: 1000 ng/ml



Western blot - Anti-HIV1 p55 + p24 +p17 antibody [RM2002] (ab309159)

HIV1 p55 + p24 +p17 Western blot staining using rabbit Anti-HIV1 p55 + p24 +p17 antibody

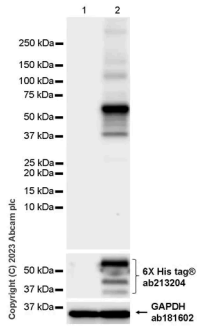
Blocking and diluting buffer and concentration: 5% NFDM/TBST In Western blot, anti-His antibody (ab213204) staining at 1/5000 dilution. This antibody does not cross-react with HIV2-GAG.
Exposure time: 26 seconds
Lane 1:
His-tagged HIV2-GAG recombinant protein

Lane 2:
His-tagged HIV1-GAG p17 fragment at 10 ng

Lane 3:
His-tagged HIV1-GAG p24 fragment at 10 ng

Observed band size: 17 kDa, 24 kDa

Exposure time: 26s



Western blot - Anti-HIV1 p55 + p24 +p17 antibody [RM2002] (ab309159)

Blocking and diluting buffer and concentration: 5% NFDM/TBST In Western blot, anti-His antibody (ab213204) staining at 1/5000 dilution. Anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution. Exposure time: 6 seconds
Lane 1:
293T cells transfected with an empty vector containi a His tag whole cell lysate

Lane 2:
293T cells transfected with a HIV1-GAG p55 expression vector containi a His-tag whole cell lysate at 20 µg

Observed band size: 55 kDa

Exposure time: 6s

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