abcam

# ab308070

# Anti-HIV1 p55 + p17 antibody [EPR27327-41]

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** | EPR27327-41 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.4825 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## WB

### Tested

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

| | |
|---|---|
| **Species** | Recombinant fragment - Human immunodeficiency virus |

| | |
|---|---|
| **Dilution info** | 1/1000 |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Human immunodeficiency virus |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

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

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Transfected cell line - Human immunodeficiency virus |
| **Dilution info** | 1/2000 |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Human immunodeficiency virus |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

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

# Flow Cyt (Intra)

### Tested

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

### Predicted

| | |
|---|---|
| **Species** | Human immunodeficiency virus |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Transfected cell lysate - Human immunodeficiency virus, Recombinant fragment - 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 |

### Predicted

| | |
|---|---|
| **Species** | Human immunodeficiency virus |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

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

## IHC-P

### Not recommended

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

## IP

### Not recommended

| | |
|---|---|
| **Species** | Human immunodeficiency virus, Transfected cell lysate - Human immunodeficiency virus, Recombinant fragment - Human immunodeficiency virus, Transfected cell line - 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** | 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** | HIV1 p55 also known as Gag polyprotein plays an important role in the assembly and maturation of the HIV-1 virus. It is expressed in infected host cells and has a molecular weight of approximately 55 kDa. HIV1 p55 serves as a precursor that gets cleaved by the viral protease to form smaller proteins including p17 (matrix protein) p24 (capsid protein) and p7 (nucleocapsid protein). These cleaved proteins are critical for the viral lifecycle. The cleavage of p55 into p17 among others contributes to the structural integrity and virion production of the virus. |
| **Biological function summary** | Gag polyprotein functions as a scaffold for the formation of viral particles. It associates with the inner cell membrane of the infected cell to form virus-like particles. HIV1 p55 is part of a larger complex that involves interactions with the viral RNA and host proteins facilitating the budding of new viral particles from the infected cell. The p17 component also called the HIV-1 Matrix protein is integral in directing Gag to the plasma membrane where assembly occurs. |
| **Pathways** | The HIV1 p55 plays central roles in the viral replication cycle. It participates in pathways that facilitate viral assembly and release. During these processes Gag interacts with proteins such as TSG101 and ALIX which are involved in the endosomal sorting complex required for transport (ESCRT) pathway. This interaction is important for the budding process allowing the nascent viral particles to exit the host cell efficiently. |
| **Associated diseases and disorders** | HIV1 p55 is directly related to Human Immunodeficiency Virus (HIV) infection leading to Acquired Immunodeficiency Syndrome (AIDS). The virus affects the immune system by depleting CD4+ T cells which HIV1 p55 through interactions with proteins like p17 contributes to this pathological effect. Additionally there's a connection to neurocognitive disorders associated with HIV where p17 is implicated in disrupting neural function showcasing its impact beyond immune suppression. |

## 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**

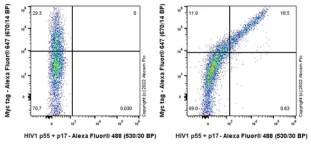
We do not recommend this combination. It is not covered by our product promise.

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.

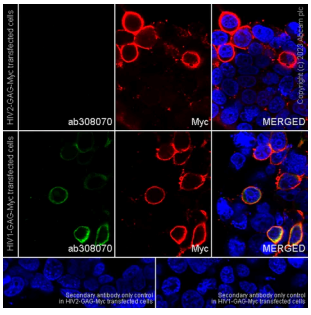
Full details and terms and conditions can be found here:
Terms & Conditions.

## 5 product images



### Flow Cytometry (Intracellular) - Anti-HIV1 p55 + p17 antibody [EPR27327-41] (ab308070)

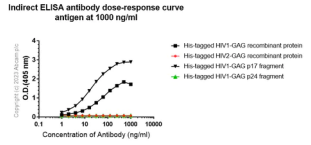
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HEK-293T cells (human embryonic kidney epithelial cells) transfected with Myc-tagged HIV2-GAG overexpression construct (Left) / HEK-293T cells transfected with Myc-tagged HIV1-GAG overexpression construct (Right) labelling HIV1 p55 + p17 with ab308070 at 1/500 dilution (Right). 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.




### Immunocytochemistry/ Immunofluorescence - Anti-HIV1 p55 + p17 antibody [EPR27327-41] (ab308070)

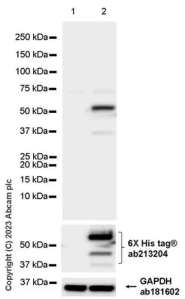
HIV1 p55 + p17 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-HIV1 p55 + p17 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HEK-293T (human embryonic kidney epithelial cell) cells labelling HIV1 p55 + p17 with ab308070 at 1/2000 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing positive staining in HEK-293T cells transfected with a HIV1-GAG expression vector containing a myc tag and no staining in HEK-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 dilution (Red). The nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.




### Indirect ELISA - Anti-HIV1 p55 + p17 antibody [EPR27327-41] (ab308070)

Indirect ELISA analysis of ab308070 at 0-1000 ng/ml. The secondary antibody used was Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) at 1/2500 dilution.




## Western blot - Anti-HIV1 p55 + p17 antibody [EPR27327-41] (ab308070)

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: 3 seconds
All lanes:
Western blot - Anti-HIV1 p55 + p17 antibody [EPR27327-41] (ab308070) at 1/1000 dilution

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

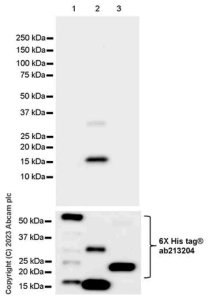
Lane 2:
293T cells transfected with a HIV1-GAG p55 expression vector containing a His-tag whole cell lysate at 20 µg

Secondary

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

Observed band size: 55 kDa

Exposure time: 3s




## Western blot - Anti-HIV1 p55 + p17 antibody [EPR27327-41] (ab308070)

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: 3 seconds
All lanes:
Western blot - Anti-HIV1 p55 + p17 antibody [EPR27327-41] (ab308070) at 1/1000 dilution

Lane 1:
His-tagged HIV2-GAG recombinant protein at 10 ng

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

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

Secondary

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

Observed band size: 17 kDa

Exposure time: 3s

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