abcam

ab326731

Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free

Specific detection of human CD45RB, supporting precise analysis of immune cell subsets and activation states. Suitable for WB, IHC-P, Flow Cytometry and ICC/IF applications, it enables robust immunophenotyping and investigation of T cell differentiation, leukocyte signaling and immune-mediated disease mechanisms.

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR31068-523
Purification technique	Affinity purification Protein A
Concentration	1.024 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Transfected cell line - Human, Human
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Human
Dilution info	-
Notes	-

IHC-P

Tested

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

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Not recommended

Species	Transfected cell lysate - Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

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

WB

Tested

Species	Human, Transfected cell lysate - Human
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell line - Human
Dilution info	-
Notes	-

Target data

See full target information PTPRC

Function

Protein tyrosine-protein phosphatase required for T-cell activation through the antigen receptor (PubMed:35767951). Acts as a positive regulator of T-cell coactivation upon binding to DPP4. The first PTPase domain has enzymatic activity, while the second one seems to affect the substrate specificity of the first one. Upon T-cell activation, recruits and dephosphorylates SKAP1 and FYN. Dephosphorylates LYN, and thereby modulates LYN activity (By similarity). Interacts with CLEC10A at antigen presenting cell-T cell contact; CLEC10A on immature dendritic cells recognizes Tn antigen-carrying PTPRC/CD45 receptor on effector T cells and modulates T cell activation threshold to limit autoreactivity. (Microbial infection) Acts as a receptor for human cytomegalovirus protein UL11 and mediates binding of UL11 to T-cells, leading to reduced induction of tyrosine phosphorylation of multiple signaling proteins upon T-cell receptor stimulation and impaired T-cell proliferation.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab326731 is the carrier-free version of ab326720

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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.

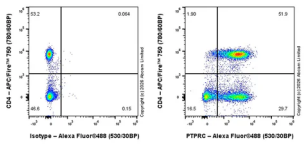
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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13 product images



Flow Cytometry - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

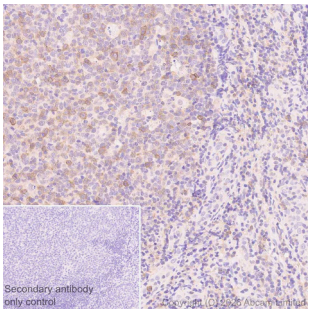
CD45RB Flow Cytometry staining of Human PBMC (human peripheral blood mononuclear cell) using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling with ab326720 at 1/500 dilution (0.1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

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

Gated on viable lymphoid cells. Cells were co-stained with CD4 conjugated to APC/Fire™ 750.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

CD45RB Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human tonsil using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling with ab326720 at 1/2000 (0.256 µg/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining in human tonsil.

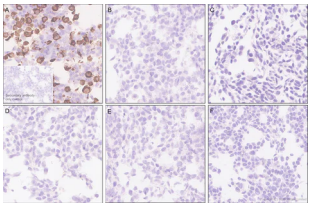
The primary antibody was incubated for 30 mins at room temperature.

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 Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

CD45RB Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded (A) HEK-293T (human epithelial cell line from embryonic kidney) transfected with a human CD45RB expression vector containing a Myc-His tag. (B) HEK-293T transfected with a human CD45RA expression vector containing a Myc-His tag. (C) HEK-293T transfected with a human CD45RAB expression vector containing a Myc-His tag. (D) HEK-293T transfected with a human CD45RC expression vector containing a Myc-His tag. (E) HEK-293T transfected with a human CD45RO expression vector containing a Myc-His tag. (F) HEK-293T transfected with empty vector containing a Myc-His tag. tissue labeling with ab326720 at 1/10000 (0.051 µg/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining in (A) HEK-293T transfected with a human CD45RB expression vector containing a Myc-His tag, and no signal in (B) HEK-293T transfected with a human CD45RA expression vector containing a Myc-His tag, (C) HEK-293T transfected with a human CD45RAB expression vector containing a Myc-His tag, (D) HEK-293T transfected with a human CD45RC expression vector containing a Myc-His tag, (E) HEK-293T transfected with a human CD45RO expression vector containing a Myc-His tag, (F) HEK-293T transfected with empty vector containing a Myc-His tag.

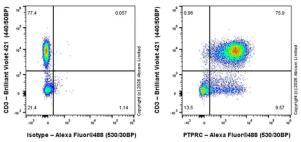
The primary antibody was incubated for 30 mins at room temperature.

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 - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

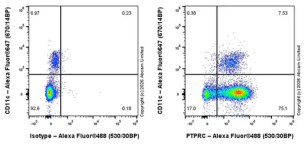
CD45RB Flow Cytometry staining of Human PBMC (human peripheral blood mononuclear cell) using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling with ab326720 at 1/500 dilution (0.1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

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

Gated on viable lymphoid cells. Cells were co-stained with CD3 conjugated to Brilliant Violet 421.



Flow Cytometry - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

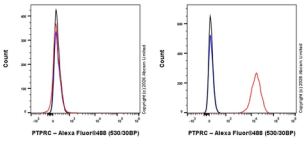
CD45RB Flow Cytometry staining of Human PBMC (human peripheral blood mononuclear cell) using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling with ab326720 at 1/500 dilution (0.1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

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

Gated on viable cells. Cells were co-stained with CD11c conjugated to Alexa Fluor®647.



Flow Cytometry - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

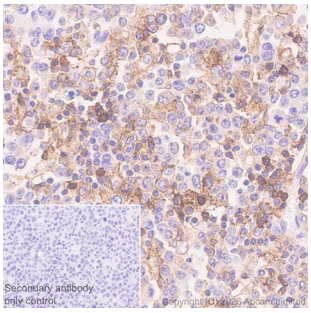
CD45RB Flow Cytometry staining using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Jurkat (human T cell leukemia T lymphocyte from peripheral blood, Right) SH-SY5Y (human neuroblastoma epithelial cell, Left) cells labelling with ab326720 at 1/500 dilution (0.1ug) / Red compared with a Rabbit monoclonal IgG (ab172730) / Black isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

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

Gated on viable cells. Negative control: SH-SY5Y.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

CD45RB Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human Burkitt's lymphoma using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Human Burkitt's lymphoma tissue labeling with ab326720 at 1/2000 (0.256 µg/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining in human Burkitt's lymphoma.

The primary antibody was incubated for 30 mins at room temperature.

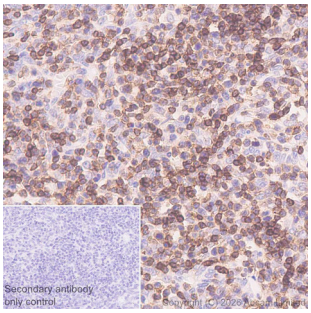
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

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 Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

CD45RB Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human thymoma using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Human thymoma tissue labeling with ab326720 at 1/2000 (0.256 µg/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining in human thymoma.

The primary antibody was incubated for 30 mins at room temperature.

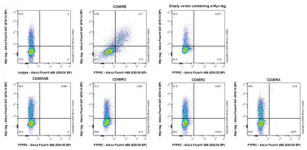
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

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 Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins

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Flow Cytometry - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

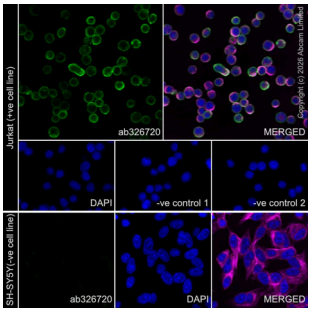
CD45RB Flow Cytometry staining using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of 4% paraformaldehyde fixed 0.1% Tween-20 permeabilized 293T cells transfected with a human CD45RB expression vector containing a HA-Myc-tag® (Upper left and middle) 293T cells transfected with an empty expression vector containing a myc-His-tag® (Upper right) 293T cells transfected with a human CD45RAB expression vector containing a HA-Myc-tag® (Lower) 293T cells transfected with a human CD45RO expression vector containing a HA-Myc-tag® (Lower) 293T cells transfected with a human CD45RC expression vector containing a HA-Myc-tag® (Lower) 293T cells transfected with a human CD45RA expression vector containing a HA-Myc-tag® (Lower) cells labelling with ab326720 at 1/500 dilution (0.1ug) compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

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

Cells were surface stained with isotype control or our antibody. Then fixed with 4% PFA for 10min followed by intracellularly stained with anti-myc tag conjugated to Alexa Fluor® 647.



Immunocytochemistry/ Immunofluorescence - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

CD45RB Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD45RB antibody

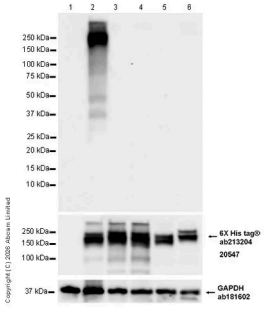
This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Jurkat (human T cell leukemia T lymphocyte from peripheral blood) SH-SY5Y (human neuroblastoma epithelial cell) cells labelling with ab326720 at 1/2000 (0.256 µg/ml) dilution , followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing membranous and cytoplasmic staining in Jurkat cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Negative control: SH-SY5Y. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab7291 Anti-alpha Tubulin mouse monoclonal antibody was used to counterstain tubulin at 1/1000 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

-ve control 1: ab326720 at 1/2000 dilution, followed by ab150120 at 1/1000 dilution.-ve control 2: ab7291 at 1/1000 dilution, followed by ab150081 at 1/1000 dilution.



Western blot - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

CD45RB Western blot staining using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

This antibody does not cross-react with overexpressed CD45RA, CD45RC, CD45RO and CD45RAB by western blot.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) (1:200000) (36KDa); Anti-6X His tag® antibody [EPR20547] - ChIP Grade (ab213204) (1:5000) (200KDa).

All lanes:
Western blot - Anti-CD45RB antibody [EPR31068-523] (ab326720) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) cells transfected with an empty vector containing a myc-His-tag® whole cell lysate at 20 µg

Lane 2:
293T cells transfected with human CD45RB expression vector containing a myc-His-tag® whole cell lysate at 20 µg

Lane 3:
293T cells transfected with human CD45RA expression vector containing a myc-His-tag® whole cell lysate at 20 µg

Lane 4:
293T cells transfected with human CD45RC expression vector containing a myc-His-tag® whole cell lysate at 20 µg

Lane 5:
293T cells transfected with human CD45RO expression vector containing a myc-His-tag® whole cell lysate at 20 µg

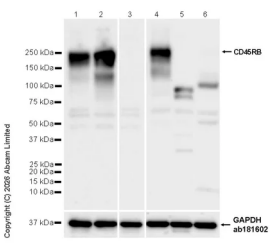
Lane 6:
293T cells transfected with human CD45RAB expression vector containing a myc-His-tag® whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 200 kDa, 36 kDa

Exposure time: 5s



Western blot - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

CD45RB Western blot staining using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Low expression: SH-SY5Y, skeletal muscle, cerebellum

The identity of the bands lower than 100 kDa are unknown.

Lanes 1-3 are incubated with Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/20000 and lanes 4-6 are incubated with Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) (1:200000) (36KDa).

Exposure time: Lanes 1-3: 10 seconds; Lanes 4-6: 15 seconds
All lanes:
Western blot - Anti-CD45RB antibody [EPR31068-523] (ab326720) at 1/1000 dilution

Lane 1:
KARPAS-299 (human T cell lymphoma cell) whole cell lysate at 20 µg

Lane 2:
Jurkat (human T cell leukemia T lymphocyte from peripheral blood) whole cell lysate at 20 µg

Lane 3:
SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
Human tonsil tissue lysate at 20 µg

Lane 5:
Human skeletal muscle tissue lysate at 20 µg

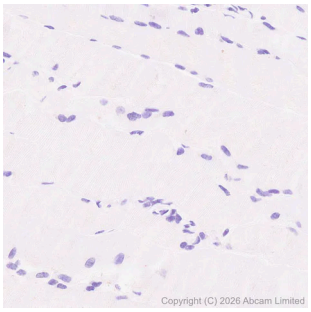
Lane 6:
Human cerebellum tissue lysate at 20 µg

Secondary

Lanes 1 - 3:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Lanes 4 - 6:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 200 kDa, 36 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD45RB antibody [EPR31068-523] - BSA and Azide free (ab326731)

CD45RB Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD45RB antibody

This data was developed using ab326720, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling with ab326720 at 1/2000 (0.256 µg/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Low expression tissue: No staining in human skeletal muscle.

The primary antibody was incubated 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 Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins

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