abcam

ab284861

Anti-Thymidine Phosphorylase antibody [EPR25629-129]

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	EPR25629-129
Purification technique	Affinity purification Protein A
Concentration	0.517 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/5000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information TYMP

Function	May have a role in maintaining the integrity of the blood vessels. Has growth promoting activity on endothelial cells, angiogenic activity in vivo and chemotactic activity on endothelial cells in vitro. Catalyzes the reversible phosphorolysis of thymidine. The produced molecules are then utilized as carbon and energy sources or in the rescue of pyrimidine bases for nucleotide synthesis.

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	Thymidine phosphorylase also known as platelet-derived endothelial cell growth factor (PD-ECGF) acts mechanically to catalyze the reversible phosphorolysis of thymidine into thymine and 2-deoxy-alpha-D-ribose-1-phosphate. With a mass of approximately 44 kDa this enzyme is present in various tissues including blood vessels and macrophages. Its expression tends to be higher in tumor tissues which suggests a specific role in cancer biology.
Biological function summary	The enzyme participates in pyrimidine nucleoside metabolism providing an alternate route for thymidine catabolism. It is not part of a larger complex functioning independently to promote angiogenesis. Thymidine phosphorylase enhances the degradation of extracellular thymidine which can positively impact nucleotide balance within cells aiding DNA synthesis and repair.
Pathways	Thymidine phosphorylase operates significantly within the nucleotide salvage pathways. It is essential for clarifying thymidine availability for DNA synthesis. The enzyme links with enzymes like dihydropyrimidine dehydrogenase in pyrimidine degradation playing a critical role in maintaining cellular nucleotide homeostasis.

Associated diseases and disorders	Altered activity of thymidine phosphorylase correlates with cancer and mitochondrial neurogastrointestinal encephalomyopathy (MNGIE). In tumors increased levels of this enzyme facilitate angiogenesis contributing to tumor growth and metastasis. In MNGIE mutations in this enzyme lead to imbalances in nucleotides causing mitochondrial dysfunction. The enzyme's dysregulation connects to angiogenesis-related proteins like VEGF in cancer highlighting potential therapeutic targets.

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

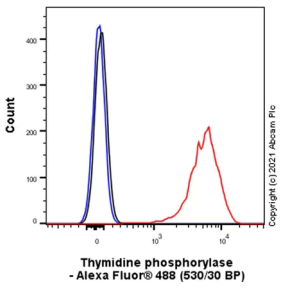
We do not recommend this combination. It is not covered by our product promise.

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.

10 product images

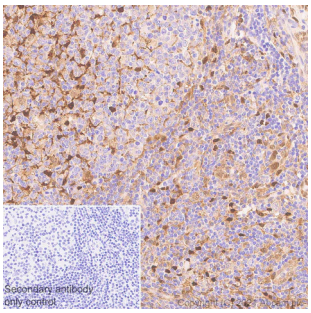


Flow Cytometry (Intracellular) - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

Thymidine Phosphorylase Flow Cytometry (Intracellular) staining using rabbit Anti-Thymidine Phosphorylase antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized A431 (Human epidermoid carcinoma epithelial cell) cells labelling Thymidine phosphorylase with ab284861 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)/(Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.

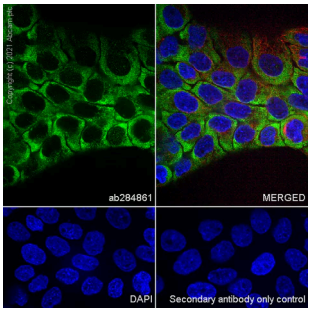


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

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

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labelling Thymidine phosphorylase with ab284861 at 1/5000 (0.103 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human tonsil. The section was incubated with ab284861 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).

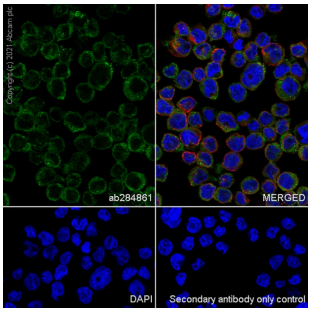
Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins



Immunocytochemistry/ Immunofluorescence - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

Thymidine Phosphorylase Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Thymidine Phosphorylase antibody

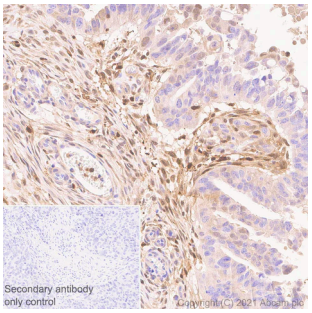
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized A431 cells labelling Thymidine phosphorylase with ab284861 at 1/50 (10.34 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green). Confocal image showing cytoplasmic staining in A431 cells is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5 ug/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.



Immunocytochemistry/ Immunofluorescence - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

Thymidine Phosphorylase Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Thymidine Phosphorylase antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized THP-1 cells labelling Thymidine phosphorylase with ab284861 at 1/50 (10.34 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 THP-1 cells is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5 ug/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.

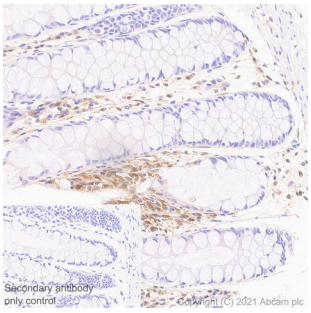


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

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

Immunohistochemical analysis of paraffin-embedded Human ovarian cancer tissue labelling Thymidine phosphorylase with ab284861 at 1/5000 (0.103 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human ovarian cancer. The section was incubated with ab284861 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 with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins

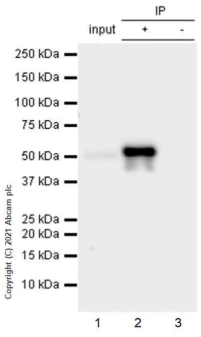


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

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

Immunohistochemical analysis of paraffin-embedded Human colon tissue labelling Thymidine phosphorylase with ab284861 at 1/5000 (0.103 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on the interstitial cells of human colon (PMID:16361565). The section was incubated with ab284861 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 with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins



Immunoprecipitation - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

Thymidine phosphorylase was immunoprecipitated from 0.35 mg A431 (human epidermoid carcinoma epithelial cell) whole cell lysate 10 ug with ab284861 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab284861 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: A431 (human epidermoid carcinoma epithelial cell) whole cell lysate 10 ug

Lane 2: ab284861 IP in A431 whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab284861 in A431 whole cell lysate

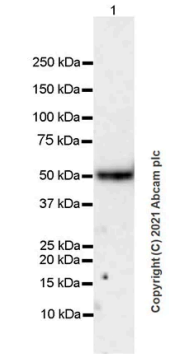
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 10 seconds

All lanes:
Immunoprecipitation - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

Predicted band size: 50 kDa

Observed band size: 50 kDa



Western blot - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

Thymidine Phosphorylase Western blot staining of A431 (human epidermoid carcinoma epithelial cell), whole cell lysate using rabbit Anti-Thymidine Phosphorylase antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
Exposure time: 137 seconds

All lanes:
Western blot - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861) at 1/1000 dilution

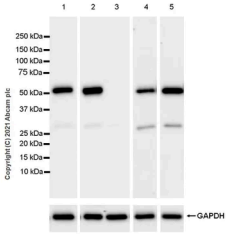
All lanes:
A431 (human epidermoid carcinoma epithelial cell), whole cell lysate at 20 µg

Secondary

All lanes:
VeriBlot for IP secondary antibody(HRP)(ab131366) at 1/5000 dilution

Predicted band size: 50 kDa

Observed band size: 50 kDa



Western blot - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

Thymidine Phosphorylase Western blot staining using rabbit Anti-Thymidine Phosphorylase antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
Low expression: human ovary (PMID:2328255).

The bands nearby 25 kDa could be non-specific bands.

Exposure time: Lane 1-3: 3.25 seconds Lane 4-5: 37 seconds

All lanes:
Western blot - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861) at 1/1000 dilution

Lane 1:
Human tonsil tissue lysate at 20 µg

Lane 2:
human ovary cancer tissue lysate at 20 µg

Lane 3:
human ovary tissue lysate at 20 µg

Lane 4:
human colon tissue lysate at 20 µg

Lane 5:
human liver tissue lysate at 20 µg

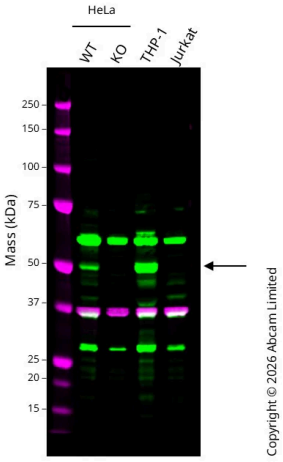
Secondary

All lanes:

Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 50 kDa

Observed band size: 50 kDa



Western blot - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861)

Thymidine Phosphorylase Western blot staining using rabbit Anti-Thymidine Phosphorylase antibody

Western blot: Anti-Thymidine Phosphorylase antibody [EPR25629-129] ab284861 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 50 kDa in Wild-type HeLa cell lysates with no signal observed at this size in TYMP knockout HeLa cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-Thymidine Phosphorylase antibody [EPR25629-129] (ab284861) at 1/1000 dilution

Lane 1:
Wild-type HeLa at 20 µg

Lane 2:
Western blot - Human TYMP (Thymidine Phosphorylase) knockout HeLa cell line (ab265138) at 20 µg

Lane 3:
THP-1 at 20 µg

Lane 4:
Jurkat at 20 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 50 kDa

Observed band size: 50 kDa

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