

Product datasheet

Anti-PD1 antibody [CAL20] ab237728

Recombinant

★★★★★ 1 Abreviews 7 Images

Overview

Product name	Anti-PD1 antibody [CAL20]
Description	Rabbit monoclonal [CAL20] to PD1
Host species	Rabbit
Tested applications	Suitable for: IHC-P, mIHC, WB, ICC/IF Unsuitable for: Flow Cyt or IP
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide. This information is considered to be commercially sensitive.
Positive control	WB: MOLT-4 (treated with 10ng/ml PMA and 500ng/ml Ionomycin for 24h) whole cell lysate. ICC/IF: MOLT-4 cells (treated with 10ng/ml PMA and 500ng/ml Ionomycin for 24h). IHC-P: Human tonsil, lymph node and lung carcinoma tissues.
General notes	<p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.</p> <p>In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.</p> <p>We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.</p> <p>Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.</p> <p>Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.2 Preservative: 0.05% Sodium azide Constituent: PBS
Purity	Protein A purified
Purification notes	Purity >99%
Clonality	Monoclonal
Clone number	CAL20
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab237728** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

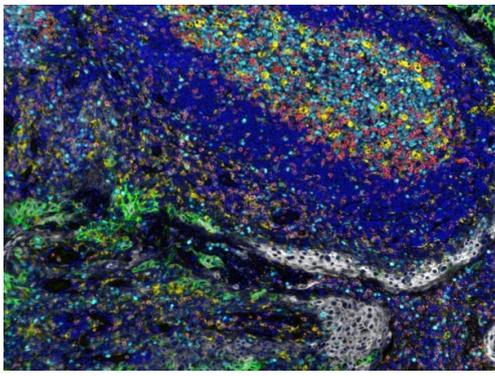
Application	Abreviews	Notes
IHC-P	★★★★★	1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
mIHC		Use at an assay dependent concentration.
WB		1/1000. Detects a band of approximately 50-55 kDa (predicted molecular weight: 32 kDa).
ICC/IF		1/50.

Application notes Is unsuitable for Flow Cyt or IP.

Target

Function	Possible cell death inducer, in association with other factors.
Involvement in disease	Genetic variation in PDCD1 is associated with susceptibility to systemic lupus erythematosus type 2 (SLEB2) [MIM:605218]. Systemic lupus erythematosus is a chronic, inflammatory and often febrile multisystemic disorder of connective tissue. It affects principally the skin, joints, kidneys and serosal membranes. It is thought to represent a failure of the regulatory mechanisms of the autoimmune system.
Sequence similarities	Contains 1 Ig-like V-type (immunoglobulin-like) domain.
Developmental stage	Induced at programmed cell death.
Cellular localization	Membrane.

Images



Multiplex immunohistochemistry - Anti-PD1 antibody [CAL20] (ab237728)

Fluorescence multiplex immunohistochemical analysis of normal human tonsil tissue (formalin-fixed paraffin-embedded section).

Merged staining of anti-PD1 (ab237728; orange; Opal™520), anti-PDL1 (ab237726; green; Opal™540), anti-CD68 (ab192847; yellow; Opal™570), anti-CD3 (ab16669; red; Opal™620), anti-Ki67 (ab16667; light blue; Opal™650) and anti-PanCK (ab7753; grey; Opal™690).

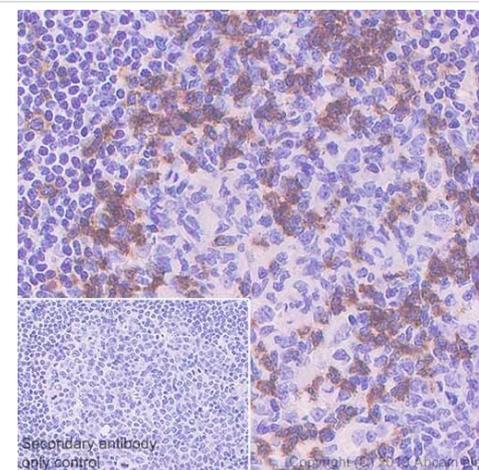
The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 7-color automation IHC kit (NEL821001KT, Akoya Biosciences®).

The section was incubated in six rounds of staining; in the order of ab237728 (1/500 dilution), ab237726 (1/500 dilution), ab192847 (1/300 dilution), ab16669 (1/300 dilution), ab16667 (1/200 dilution) and ab7753 (1/200 dilution); each using a separate fluorescent tyramide signal amplification system.

Sodium citrate antigen retrieval (Leica ER1, pH6.0, 30 minutes) was used in between rounds of tyramide signal amplification to remove the antibody from the previous round, to avoid any cross-reactivity.

DAPI (dark blue) was used as a nuclear counter stain.

Microscopy and pseudocoloring of individual Opal™ dyes was performed using a Vectra Polaris.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [CAL20] (ab237728)

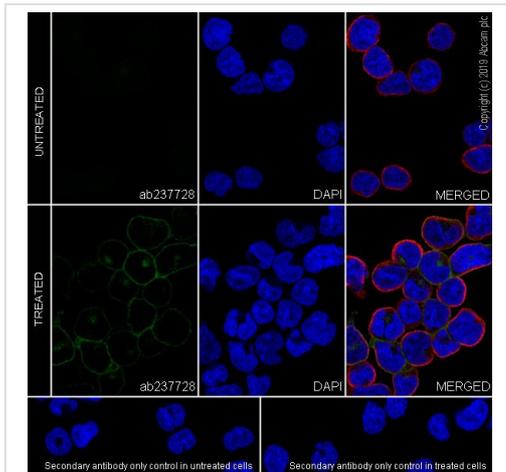
Immunohistochemical analysis of paraffin-embedded human tonsil tissue labeling PD1 with ab237728 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Positive staining on the human tonsil is observed. Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 30 mins.

The section was incubated with ab237728 for 15 mins at room temperature.

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

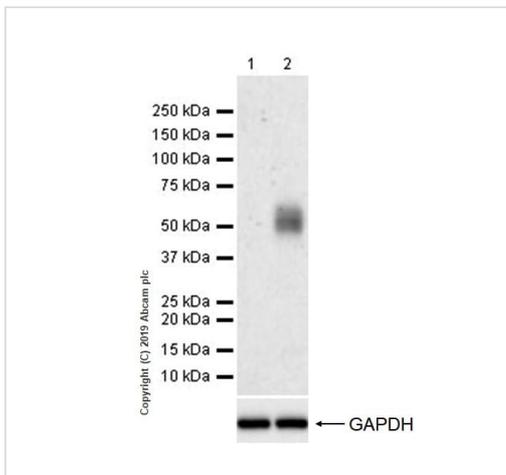


Immunocytochemistry/ Immunofluorescence - Anti-PD1 antibody [CAL20] (ab237728)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized MOLT-4 (human lymphoblastic leukemia cell line) cells labeling PD1 with ab237728 at 1/50 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor[®] 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing membranous staining in MOLT-4 cells treated with PMA (10ng/ml 24h) and Ionomycin(500ng/ml 24h). The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor[®] 594) (ab195889) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor[®] 488) (ab150077) secondary antibody at 1/1000 dilution.

Cells were either untreated, or treated with treated with PMA (10ng/ml 24h) and Ionomycin (500ng/ml 24h).



Western blot - Anti-PD1 antibody [CAL20] (ab237728)

All lanes : Anti-PD1 antibody [CAL20] (ab237728) at 1/1000 dilution

Lane 1 : Untreated MOLT-4 (human lymphoblastic leukemia cell line), whole cell lysate

Lane 2 : MOLT-4 (treated with 10ng/ml PMA and 500ng/ml Ionomycin for 24h), whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary

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

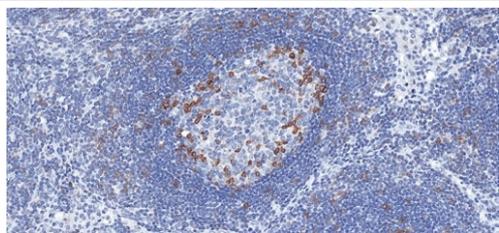
Predicted band size: 32 kDa

Observed band size: 50-55 kDa

[why is the actual band size different from the predicted?](#)

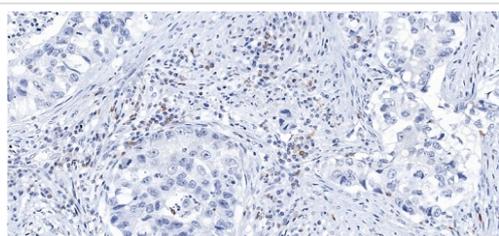
Exposure time: 3 minutes

Blocking and dilution buffer: 5% NFD/MTBST.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [CAL20] (ab237728)

Formalin-fixed, paraffin-embedded human lymph node tissue stained for PD1 using ab237728 at 0.125 µg/ml dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [CAL20] (ab237728)

Formalin-fixed, paraffin-embedded human lung carcinoma tissue stained for PD1 using ab237728 at 0.125 µg/ml dilution in immunohistochemical analysis.

Why choose a recombinant antibody?

 <p>Research with confidence Consistent and reproducible results</p>	 <p>Long-term and scalable supply Recombinant technology</p>
 <p>Success from the first experiment Confirmed specificity</p>	 <p>Ethical standards compliant Animal-free production</p>

Anti-PD1 antibody [CAL20] (ab237728)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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