

Product datasheet

Anti-PD1 antibody [NAT105] ab52587

★★★★★ [9 Abreviews](#) [255 References](#) [15 Images](#)

Overview

Product name	Anti-PD1 antibody [NAT105]
Description	Mouse monoclonal [NAT105] to PD1
Host species	Mouse
Tested applications	Suitable for: WB, Flow Cyt, IHC-Fr, ICC/IF, IHC-P
Species reactivity	Reacts with: Human
Immunogen	Tissue, cells or virus. This information is proprietary to Abcam and/or its suppliers.
Positive control	IHC-P: Human tonsil tissue. ICC/IF: MOLT-4 cells. Flow Cyt: Human tonsil extract. MOLT-4 cells. IHC-Fr: Human tonsil tissue.
General notes	<p>Please note that PD-1 is expressed variably in different tissues and that optimisation may be required depending on the tissue used for the experiment.</p> <p><u>Western blot protocol advice:</u></p> <p>Due to low expression of PD-1, we recommend loading a high amount of sample (100 µg) to detect the band for PD-1. Human tonsil and YT cell line lysates are suitable positive controls.</p> <p>New alternative versions of the NAT105 clone available:</p> <p>Recombinant version (ab234444)</p> <p>PBS-only recombinant version (ab201811)</p> <p>Chimeric recombinant rabbit version (ab216352)</p> <p>To test multiple PD-1 monoclonal antibodies please see our PD-1 trial-size panel – ab252192</p> <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>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, along with publications, 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 or -80°C. Avoid freeze / thaw cycle.

Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
Purity	Protein G purified
Clonality	Monoclonal
Clone number	NAT105
Isotype	IgG1
Light chain type	kappa

Applications

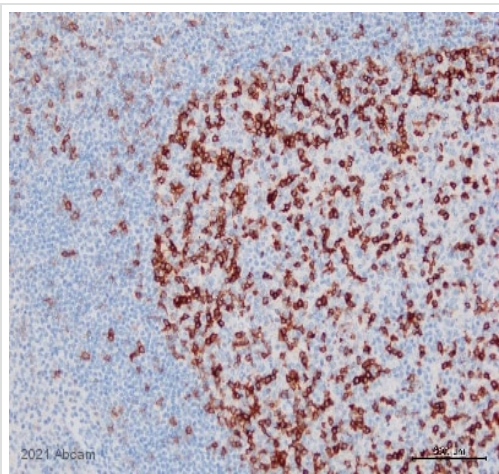
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab52587 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/50. Predicted molecular weight: 32 kDa.
Flow Cyt		1/100. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
IHC-Fr	★★★★★ (1)	Use at an assay dependent concentration.
ICC/IF		Use a concentration of 5 - 10 µg/ml. We recommend Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) (ab150117) secondary antibody .
IHC-P	★★★★★★ (7)	1/50. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

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



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [NAT105] (ab52587)

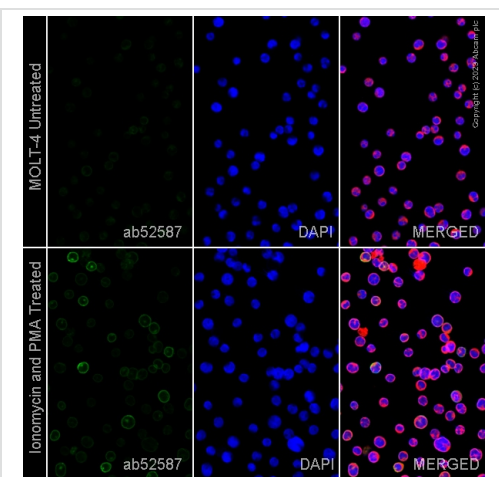
This image is courtesy of an anonymous Abreview

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of formaldehyde fixed human tonsil staining with ab52587 at 1/200 dilution.

Secondary antibody used was HRP BOND Refine Detection kit.

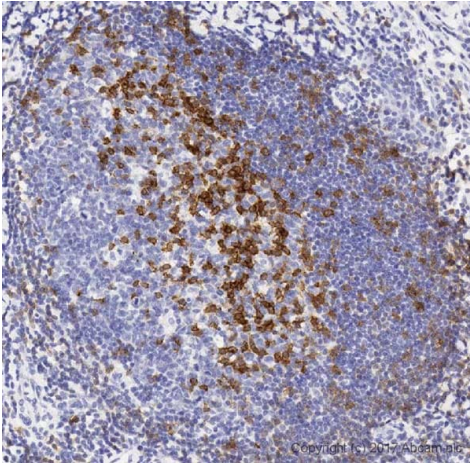
The sample was incubated with the primary antibody for 30 minutes.

Antigen retrieval method was heat mediated BOND ER2



Immunocytochemistry/ Immunofluorescence - Anti-PD1 antibody [NAT105] (ab52587)

ab52587 staining PD1 in MOLT4 treated with Ionomycin (500 ng/ml, 24 h) and PMA (10 ng/ml, 24 h) cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab52587 at 5µg/ml and **ab6046**, Rabbit polyclonal to beta Tubulin - Loading Control. Cells were then incubated with **ab150117**, Goat polyclonal Secondary Antibody to Mouse IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (shown in green) and **ab150080**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 594) at 1/1000 dilution (shown in pseudocolour magenta). Nuclear DNA was labelled with DAPI (shown in blue). Also suitable in cells fixed with 4% paraformaldehyde (10 min). Image was acquired with a confocal microscope (Leica-Microsystems TCS SP8) and a single confocal section is shown.

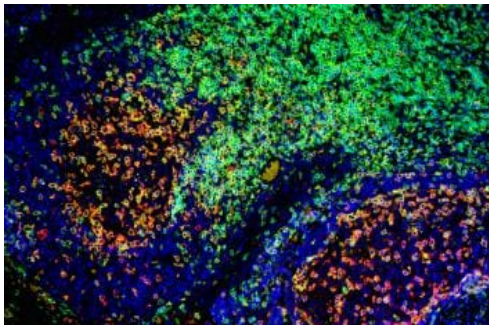


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [NAT105] (ab52587)

IHC image of PD1 staining in normal human tonsil formalin fixed paraffin embedded tissue section*, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab52587 at 5 µg/ml for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with hematoxylin and mounted with DPX.

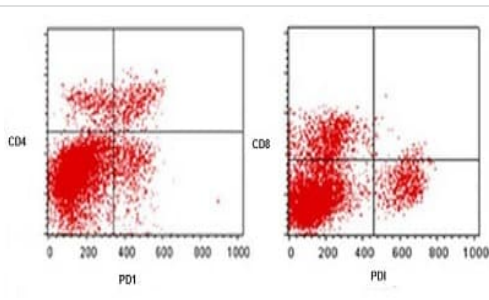
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [NAT105] (ab52587)

Double immunofluorescence staining of CD3 (green) and PD1 (red) on paraffin embedded tonsil.



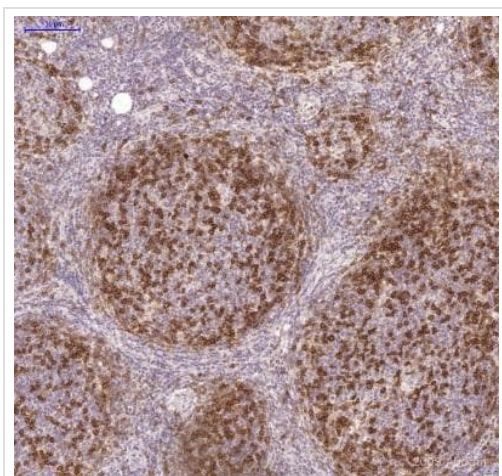
Flow Cytometry - Anti-PD1 antibody [NAT105] (ab52587)

Sample: Human tonsil cell extract.

Dilution: ab52587 antibody was used as 1/200 in 1×10^6 cells/tube.

Anti-CD4 antibody was used as 1/200 dilution.

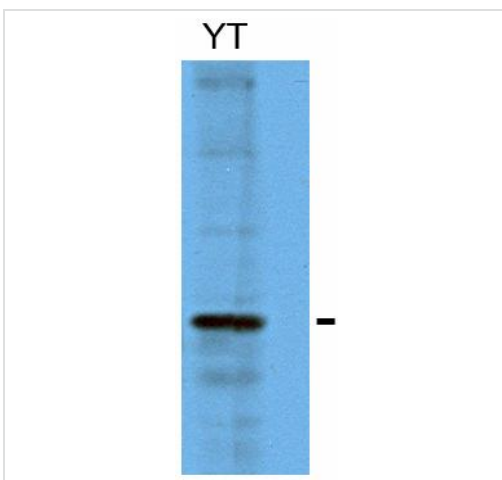
Anti-CD8 antibody was used as 1/200 dilution.



Formaldehyde-fixed, paraffin-embedded human follicular lymphoma tissue stained for PD1 with ab52587 at 1/100 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [NAT105] (ab52587)

Image courtesy of an AbReview submitted by Dr Hajnalka Rajnai



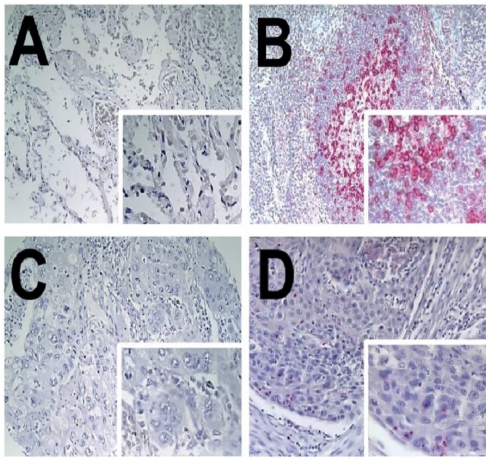
Anti-PD1 antibody [NAT105] (ab52587) at 1/50 dilution + YT cell line extracts

Predicted band size: 32 kDa

Observed band size: 47 kDa

Western blot - Anti-PD1 antibody [NAT105] (ab52587)

This image is courtesy of an anonymous collaborator.



Representative immunohistochemical staining results for PD1 using ab52587 at a 1/50 dilution in human formalin-fixed, paraffin-embedded tissue specimens.

Panel A: Normal lung tissue, negative control;

Panel B: Tonsillar tissue, positive control;

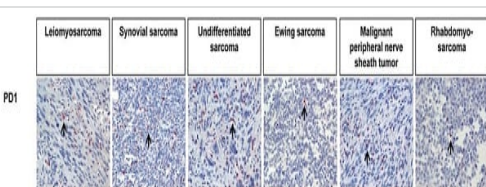
Panel C: PD1-negative tumor infiltrating lymphocytes;

Panel D: PD1-positive tumor infiltrating lymphocytes in squamous cell carcinomas).

Image from PMID: 26313362

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [NAT105] (ab52587)

Schmidt et al PLoS One. 2015 Aug 27;10(8):e0136023. doi: 10.1371/journal.pone.0136023. eCollection 2015. Fig 1. Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>



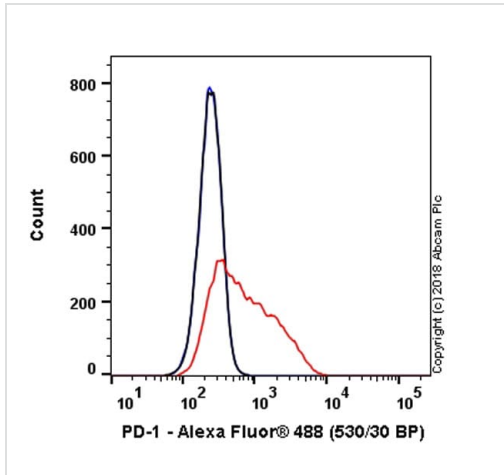
Immunohistochemical analysis of various soft tissue sarcomas staining PD1 using ab52587 at a 1/50 dilution.

Arrows indicate PD1 positive lymphocytes.

Image from PMID: 24349382

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [NAT105] (ab52587)

Kim et al PLoS One. 2013 Dec 11;8(12):e82870. doi: 10.1371/journal.pone.0082870. eCollection 2013. Fig 1. Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>

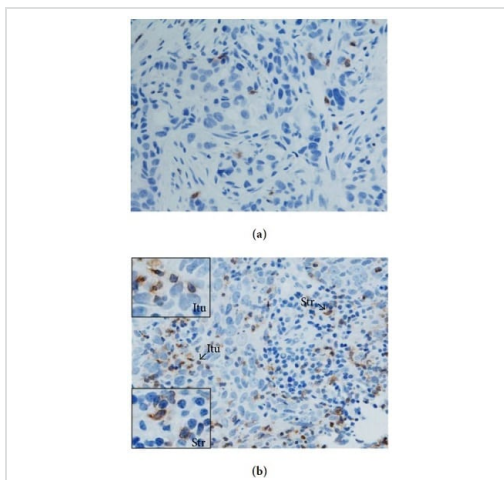


Flow Cytometry - Anti-PD1 antibody [NAT105]
(ab52587)

Overlay histogram showing MOLT-4 (Human lymphoblastic leukemia cell line) cells stained with ab52587 (red line). Live cells were incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab52587, 1/100 dilution) for 30 min at 4°C. The secondary antibody used was Alexa Fluor® 488 goat anti-mouse IgG (H&L) (**ab150117**) at 1/2000 dilution for 30 min at 4°C.

A mouse IgG1 isotype control antibody (**ab170190**) was used at the same concentration and conditions as the primary antibody (black line). Unlabeled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50 mW Blue laser (488nm) and 530/30 bandpass filter.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [NAT105]
(ab52587)

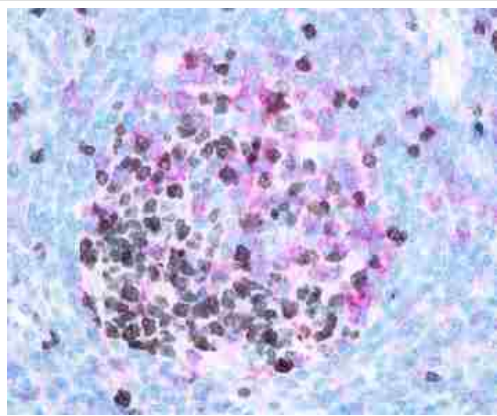
This image is from PubMedId: 27777963.
Kaewkangsan V et al. (2016) Reproduced under the Creative Commons license
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Immunohistochemical analysis of human large and locally advanced breast cancers staining PD1 using ab52587.

(Panel a) Low level of PD-1⁺ T cell infiltration.

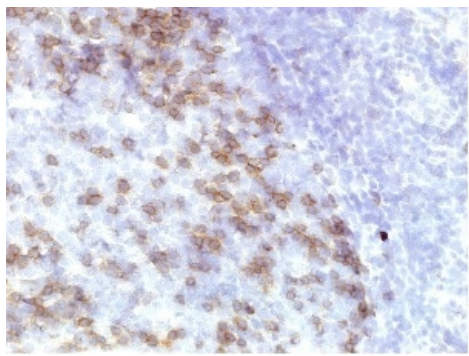
(Panel b) high level of PD-1⁺ T cell infiltration. (In: intratumoral Str: stromal).

Image data from PMID: 27777963



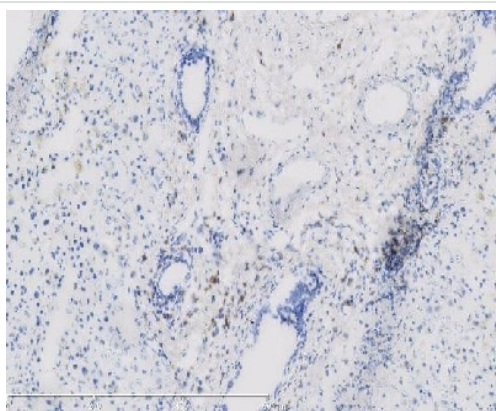
Double immunoenzymatic staining of Ki67 (brown) and PD1 (red) on paraffin embedded tonsil.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [NAT105] (ab52587)



Human tonsil tissue stained for PD1 with ab52587 incubated for 30 mins at a 1/100 dilution in immunohistochemical analysis.

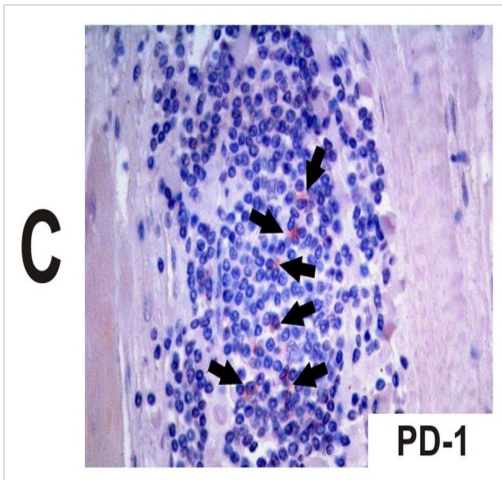
Immunohistochemistry (Frozen sections) - Anti-PD1 antibody [NAT105] (ab52587)



Immunohistochemical analysis of frozen human liver tissue labeling PD1 with ab52587 at 1/50 dilution.

Immunohistochemistry (Frozen sections) - Anti-PD1 antibody [NAT105] (ab52587)

This image is courtesy of an anonymous Abreview



Expression of markers of T cell differentiation and degree of inflammation in the heart of chronically *T. cruzi*-infected subjects with severe cardiomyopathy.

A–D, left panel: representative photos of CD45RO, CD27, PD1 and CD57 expression, respectively.

Panel C shown.

Image data from PMID: 25144227

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD1 antibody [NAT105] (ab52587)

Argüello et al PLoS Negl Trop Dis. 2014 Aug 21;8(8):e2989. doi: 10.1371/journal.pntd.0002989. eCollection 2014 Aug. Fig 2. Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>

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