Product Datasheet

PD-1 Antibody - BSA Free
NBP1-77276

Unit Size: 0.1 mg

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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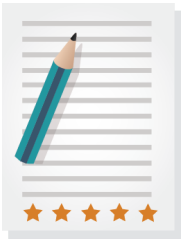
Publications: 7

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:
www.novusbio.com/NBP1-77276

Updated 9/9/2025 v.20.1



NBP1-77276

PD-1 Antibody - BSA Free

Product Information

Unit Size	0.1 mg
Concentration	1 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS
Target Molecular Weight	32 kDa

Product Description

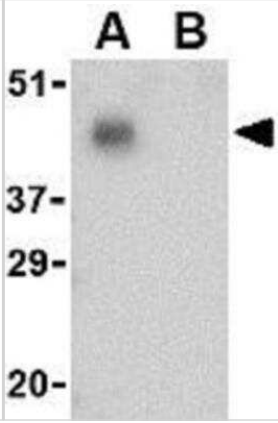
Description	Novus Biologicals Rabbit PD-1 Antibody - BSA Free (NBP1-77276) is a polyclonal antibody validated for use in IHC, WB, ELISA, Flow and ICC/IF. Anti-PD-1 Antibody: Cited in 7 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	5133
Gene Symbol	PDCD1
Species	Human, Mouse
Immunogen	Antibody was raised against a 16 amino acid synthetic peptide from near the carboxy terminus of human PD-1. The immunogen is located within amino acids 210 - 260 of PD-1.

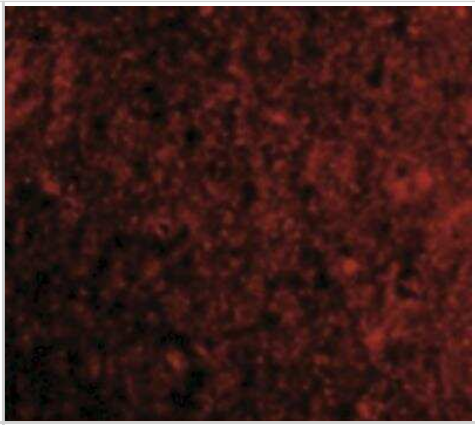
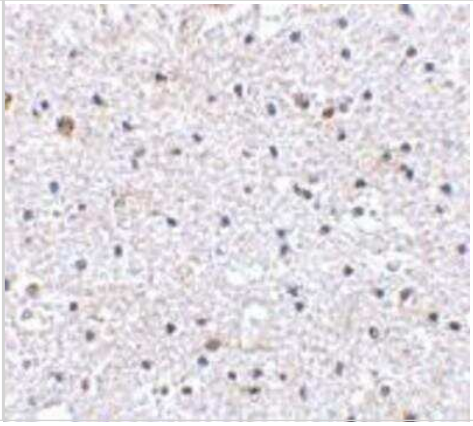
Product Application Details

Applications	Western Blot, Immunohistochemistry-Paraffin, ELISA, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry
Recommended Dilutions	Western Blot 1:100 - 1:2000, ELISA 1:100 - 1:2000, Immunohistochemistry 1:10 - 1:500, Immunocytochemistry/ Immunofluorescence 20 ug/mL, Immunohistochemistry-Paraffin 1:10 - 1:500

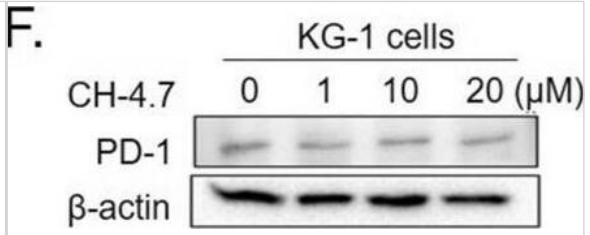
Images

Western Blot: PD-1 Antibody [NBP1-77276] - THP-1 cell lysate with PD-1 antibody at 1 ug/mL in the (A) absence and (B) presence of blocking peptide.



Immunocytochemistry/Immunofluorescence: PD-1 Antibody [NBP1-77276] - Human Brain tissue with PD-1 antibody at 20 ug/mL.	
Immunohistochemistry: PD-1 Antibody [NBP1-77276] - Staining of human tonsil tissue with antibody at 5 ug/mL.	
Immunohistochemistry-Paraffin: PD-1 Antibody [NBP1-77276] - Human brain tissue with PD-1 antibody at 2.5 ug/mL.	

In vitro inhibition by the CH-4 analog of the PD-1/PD-L1 interaction. (A) HEK293 cells (left-hand panel) and Jurkat cells (right-hand panel) were treated with CH-4.7 or CH-4.9 to test cytotoxicity. Cells were seeded into 96-well plates at a density of 7 × 103/well and incubated overnight, then treated with increasing concentrations of CH-4.7 or CH-4.9 (0, 10, 20, 40, 80, or 100 uM) for 48 h. At 48 h, cell cytotoxicity WST-1 assays were performed. The x-axis indicates treatment concentrations, while the y-axis indicates the percentage of cell viability (each absolute absorbance value [abs. 450 nm–630 nm] was normalized with the controls). (B) The capacities of CH-4.7 and CH-4.9 to inhibit the PD-1/PD-L1 interaction were tested by the flow cytometry assay. The graphs present the mean +/- SD (standard deviation) values from at least three independent experiments. (C) CH-4.7 cytotoxicity in KG-1 cells. (D) Flow cytometry determined binding of the Ni–NTA-l-labeled sPD-L1 (PD-L1-Atto) complex to KG-1 cells expressing PD-1. Cell staining (FITC-subset) was blocked in the presence of CH-4.7. The experimental groups are indicated as (a) KG-1/PBS, (b) KG-1/Atto dye, (c) KG-1/sPD-L1/Atto dye, (d) KG-1/sPD-L1/Atto dye/CH-4 (10 uM), (e) KG-1/sPD-L1/Atto dye/CH-4.7 (20 uM). (E) The cell staining data from (D) are normalized and quantified as relative MFI values. (F) At 48 h, PD-1 protein (20 ug/well) expression was determined by Western blotting. The bar graphs present the mean +/- SD (standard deviation) values from three independent experiments. *p < 0.05, **p < 0.01, ***p < 0.001. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/34996924), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Xie C, You X, Zhang H et al. A Nanovaccine Based on Adjuvant Peptide FK-13 and l-Phenylalanine Poly(ester amide) Enhances CD8(+) T Cell-Mediated Antitumor Immunity Advanced Science 2023-07-01 [PMID: 37162249]

Kohlman-Trigoboff D., , et Al. Review of article: Rivaroxaban with or without aspirin in stable cardiovascular disease. Eikelboom JW, Connolly SJ, Bosch J, et al. for the COMPASS investigators J Vasc Nurs 2018-06-22 [PMID: 29153230]

D Sridaran, S Chouhan, K Mahajan, A Renganatha, C Weimholt, S Bhagwat, M Reimers, EH Kim, MK Thakur, MA Saeed, RK Pachynski, MA Seeliger, WT Miller, FY Feng, NP Mahajan Inhibiting ACK1-mediated phosphorylation of C-terminal Src kinase counteracts prostate cancer immune checkpoint blockade resistance Nature Communications, 2022-11-14;13(1):6929. 2022-11-14 [PMID: 36376335]

Meng Y, Zhao Q, Sang Y et al. GPNMB+ Gal-3+ hepatic parenchymal cells promote immunosuppression and hepatocellular carcinogenesis The EMBO journal 2023-11-27 [PMID: 38009297] (FLOW, Rat)

Lu CH, Chung WM, Tsai CH et al. In vitro characterization of a small molecule PD-1 inhibitor that targets the PD-l/PD-L1 interaction Scientific reports 2022-01-07 [PMID: 34996924] (WB, Human)

CCR4 Blockade Depletes Regulatory T cells and Prolongs Survival in a Canine Model of Bladder Cancer. Maeda S, Murakami K, Inoue A et al. Cancer Immunol Res [PMID: 31160277]

Agina HA, Ehsan NA, Abd-Elaziz TA et al. Hepatic expression of programmed death-1 (PD-1) and its ligand, PD-L1, in children with autoimmune hepatitis: relation to treatment response Clin Exp Hepatol. 2019-09-05 [PMID: 31598564] (IHC-P, Human)

Procedures

Western Blot Protocol for PD-1 Antibody (NBP1-77276)
Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 10-25 ug of total protein per lane.
2. Transfer proteins to PVDF membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain the membrane with Ponceau S (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot TBS -0.05% Tween 20 (TBST).
5. Block the membrane in 5% Non-fat milk in TBST (blocking buffer) for at least 1 hour.
6. Wash the membrane in TBST three times for 10 minutes each.
7. Dilute primary antibody in blocking buffer and incubate overnight at 4C with gentle rocking.
8. Wash the membrane in TBST three times for 10 minutes each.
9. Incubate the membrane in diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturer's instructions) for 1 hour at room temperature.
10. Wash the blot in TBST three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturer's instructions.

Immunohistochemistry-Paraffin Protocol for PD-1 Antibody (NBP1-77276)
Immunohistochemistry-Paraffin Embedded Sections

Antigen Unmasking:
Bring slides to a boil in 10 mM sodium citrate buffer (pH 6.0) then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench-top for 30 minutes (keep slides in the sodium citrate buffer at all times).

Staining:
1. Wash sections in deionized water three times for 5 minutes each.
2. Wash sections in PBS for 5 minutes.
3. Block each section with 100-400 ul blocking solution (1% BSA in PBS) for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul diluted primary antibody. Incubate overnight at 4 C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul HRP polymer conjugated secondary antibody. Incubate 30 minutes at room temperature.
7. Wash sections three times in wash buffer for 5 minutes each.
8. Add 100-400 ul DAB substrate to each section and monitor staining closely.
9. As soon as the sections develop, immerse slides in deionized water.
10. Counterstain sections in hematoxylin.
11. Wash sections in deionized water two times for 5 minutes each.
12. Dehydrate sections.
13. Mount coverslips.

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Products Related to NBP1-77276

NBP1-77276PEP	PD-1 Antibody Blocking Peptide
NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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