abcam

**ab210931**

# Anti-PD-L1/CD274 antibody [ABM4E54]

## Key facts

| | |
|---|---|
| **Isotype** | IgG2a |
| **Host species** | Mouse |
| **Storage buffer** | Preservative: 0.05% Sodium azide Constituents: PBS, 0.05% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | Recombinant Fragment Protein within Human CD274 aa 1-250. The exact immunogen used to generate this antibody is proprietary information. Database link Q9NZQ7 |
| **Clone number** | ABM4E54 |
| **Purification technique** | Affinity purification Protein G |
| **Light chain type** | kappa |
| **Concentration** | 0.5 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 5 µg/mL |

| | |
|---|---|
| **Notes** | Perform heat-mediated antigen retrieval before commencing with IHC staining protocol. |

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1-2 µg/mL |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 0.5 µg/mL |
| **Notes** | - |

# Target data

See full target information PD-L1/CD274

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|---|---|
| **Function** | Plays a critical role in induction and maintenance of immune tolerance to self (PubMed:11015443, PubMed:28813410, PubMed:28813417, PubMed:31399419). As a ligand for the inhibitory receptor PDCD1/PD-1, modulates the activation threshold of T-cells and limits T-cell effector response (PubMed:11015443, PubMed:28813410, PubMed:28813417, PubMed:36727298). Through a yet unknown activating receptor, may costimulate T-cell subsets that predominantly produce interleukin-10 (IL10) (PubMed:10581077). Can also act as a transcription coactivator: in response to hypoxia, translocates into the nucleus via its interaction with phosphorylated STAT3 and promotes transcription of GSDMC, leading to pyroptosis (PubMed:32929201). The PDCD1-mediated inhibitory pathway is exploited by tumors to attenuate anti-tumor immunity and escape destruction by the immune system, thereby facilitating tumor survival (PubMed:28813410, PubMed:28813417). The interaction with PDCD1/PD-1 inhibits cytotoxic T lymphocytes (CTLs) effector function (By similarity). The blockage of the PDCD1-mediated pathway results in the reversal of the exhausted T-cell phenotype and the normalization of the anti-tumor response, providing a rationale for cancer immunotherapy (By similarity). |

# Storage

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|---|---|
| **Shipped at conditions** | Blue Ice |
| **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 |

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

| | |
|---|---|
| **Activity summary** | PD-L1 also known as Programmed Death-Ligand 1 or CD274 is a protein involved in immune modulation. Mechanically PD-L1 interacts with its receptors particularly PD-1 to regulate cellular immune responses. This transmembrane protein has a calculated molecular weight of approximately 33 kDa. PD-L1 is expressed on various cell types including tumor cells and immune cells such as dendritic cells macrophages and B cells. Its expression is often upregulated in response to inflammatory cytokines. |
| **Biological function summary** | PD-L1 plays a central role in immune evasion mechanisms utilized by tumors. It is not part of a larger protein complex but directly interacts with PD-1 and CD80. When PD-L1 binds to PD-1 it sends inhibitory signals leading to decreased T cell activation and proliferation allowing cancer cells to avoid immune destruction. PD-L1 expression provides a mechanism for tumors to suppress immune surveillance facilitating tumor progression. |
| **Pathways** | PD-L1 is integral to the immune checkpoint pathway which is an important regulator of immune response. The interaction between PD-L1 and PD-1 provides a mechanism for immune tolerance which is part of the broader adaptive immune system pathway. PD-L1 is related to other immune checkpoint proteins such as CTLA-4 in its function to limit autoreactivity and promote immune homeostasis. |
| **Associated diseases and disorders** | PD-L1 is most associated with cancer particularly in tumors such as melanoma and non-small cell lung cancer. PD-L1 expression on tumor cells often correlates with poor prognosis. PD-L1 directly interacts with PD-1 in these cancers a target for immunotherapies such as checkpoint inhibitors which aim to block this interaction and restore immune activity against tumors. PD-L1 involvement extends to autoimmune disorders where altered expression can impact tolerance and lead to immune-related tissue damage. |

## 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.

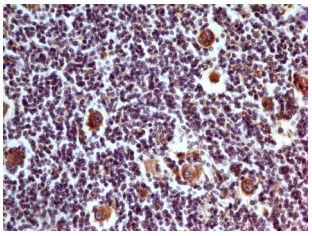
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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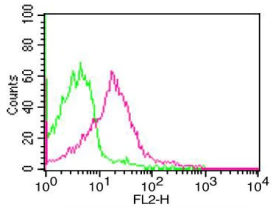
## 4 product images



### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PD-L1/CD274 antibody [ABM4E54] (ab210931)

PD-L1/CD274 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-PD-L1/CD274 antibody

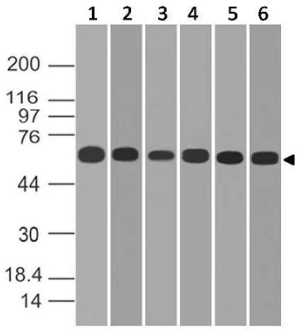
Immunohistochemical analysis of formalin-fixed paraffin-embedded human Hodgkin's lymphoma tissue, labeling PD-L1 with ab210931 at 5 µg/mL.




### Flow Cytometry - Anti-PD-L1/CD274 antibody [ABM4E54] (ab210931)

PD-L1/CD274 Flow Cytometry staining using mouse Anti-PD-L1/CD274 antibody

Cell Surface flow cytometry analysis of PD-L1 in PHA treated human PBMC using 1 µg of ab210931. Green represents isotype control; pink represents ab210931 antibody. Goat anti-mouse PE conjugate was used as secondary antibody.




## Western blot - Anti-PD-L1/CD274 antibody [ABM4E54] (ab210931)

PD-L1/CD274 Western blot staining using mouse Anti-PD-L1/CD274 antibody

Exposure time: 1 minute in film and 30 seconds in imager.
All lanes:
Western blot - Anti-PD-L1/CD274 antibody [ABM4E54] (ab210931) at 2 µg/mL

Lane 1:
A549 lysate at 30 µg

Lane 2:
MCF-7 lysate at 30 µg

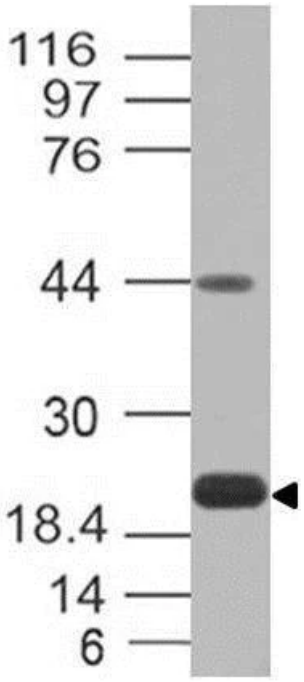
Lane 3:
293 lysate at 30 µg

Lane 4:
HCT-116 lysate at 30 µg

Lane 5:
Saos2 lysate at 30 µg

Lane 6:
HeLa lysate at 30 µg

Predicted band size: 33 kDa




## Western blot - Anti-PD-L1/CD274 antibody [ABM4E54] (ab210931)

PD-L1/CD274 Western blot staining of Recombinant protein fragment of Human PD-L1 using mouse Anti-PD-L1/CD274 antibody

All lanes:
Western blot - Anti-PD-L1/CD274 antibody [ABM4E54] (ab210931) at 0.5 µg/mL

All lanes:
Recombinant protein fragment of Human PD-L1

Predicted band size: 33 kDa

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