abcam

ab269253

Anti-PD-L1/CD274 antibody [MIH5]

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Clone number	MIH5
Purification technique	Affinity purification
Light chain type	lambda
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Greater than 90%, as determined by SDS-PAGE.

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	Use 0.25 µg/test.

WB

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Target data

See full target information PD-L1/CD274

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

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

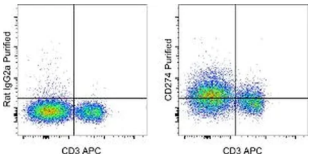
We do not recommend this combination. It is not covered by our product promise.

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:
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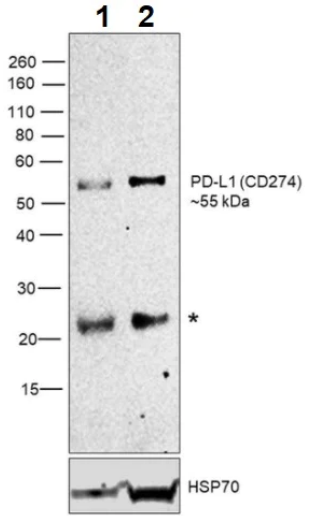
2 product images



Flow Cytometry - Anti-PD-L1/CD274 antibody [MIH5] (ab269253)

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

Flow cytometry analysis of C57Bl/6 mouse splenocytes stained for PD-L1 with an anti-Mouse CD3e APC and 0.25 µg of Rat IgG2a K Isotype Control Purified (left) or 0.25 µg of ab269253 (right) followed by an anti-Rat IgG Biotin and Streptavidin PE.
Total viable cells were used for analysis.



Western blot - Anti-PD-L1/CD274 antibody [MIH5] (ab269253)

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

A 25 kDa band (*) corresponding to IgG was also observed in these tissues.
NuPAGE™ 10% Bis-Tris Protein Gel

All lanes:
Western blot - Anti-PD-L1/CD274 antibody [MIH5] (ab269253) at 1/500 dilution

Lane 1:
Mouse heart tissue lysate at 30 µg

Lane 2:
Mouse testis tissue lysate at 30 µg

Secondary

All lanes:
F(ab2-Rabbit anti-Rat IgG (H+L Secondary Antibody, HRP at 1/4000 dilution

Predicted band size: 33 kDa

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