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Human PD-L1 (CD274) (Durvalumab) Antibody

Biosimilar Recombinant Human Monoclonal Antibody

Product Information

Product No.:	P690
Clone:	MEDI4736
Isotype:	Human IgG1κ
Storage:	Sterile 2 to 8°C

Product Description

Specificity:

This non-therapeutic biosimilar antibody uses the same variable region sequence as the therapeutic antibody Durvalumab. This product is for research use only. Durvalumab activity is directed against human PD-L1.

Antigen Distribution:

PD-L1 is commonly expressed on the surface of antigen-presenting cells (macrophages, activated B cells, dendritic cells), some epithelial cells under inflammatory conditions, some activated T cells, and several types of tumors as well as tumor-infiltrating immune cells. PD-L1 can also exist in a soluble form (sPD-L1) in myeloid-derived cells (monocytes, macrophages, and dendritic cells) and several human cancer lines.

Background:

Programmed cell death 1 ligand 1 (PD-L1; CD274; B7-H1) is a type I transmembrane glycoprotein widely expressed in many types of tissues that acts as a ligand for the immune inhibitory receptor programmed cell death 1 (PD-1; CD279) 1,2,3 and B7.1 4. The PD-1 pathway is responsible for T cell activation, proliferation, and cytotoxic secretion, with PD-1/PD-L1 interaction triggering inhibitory signals that dampen T cell function. PD-L1 also plays a critical role in the differentiation of inducible regulatory T cells 5.

In normal tissues, PD-L1/PD-1 ligation is crucial to maintaining homeostasis of the immune system and preventing autoimmunity during infection and inflammation 5. In the tumor microenvironment, their interaction provides an immune escape mechanism for tumor cells by turning off cytotoxic T cells. As such, blocking the PD-L1/PD-1 interaction is a target of many anti-cancer immunotherapies.

Durvalumab was generated using IgG2 and IgG4 XenoMouse animals immunized with human PD-L1-Ig or CHO cells expressing human PD-L1 6. Hybridomas were screened for binding to human PD-L1-transfected HEK 293 cells and inhibition of PD-1 binding to PD-L1 expressing CHO cells. To avoid triggering antibody-dependent cellular cytotoxicity and complement-dependent cytotoxicity, the constant domain was then exchanged for a human IgG1 triple-mutant domain that reduces binding to C1q and Fc gamma receptors. Durvalumab binds specifically to PD-L1 and inhibits interaction with PD-1 and CD80. Durvalumab does not cross react with human PD-L2, B7-H3, or mouse PD-L1. Durvalumab has been investigated as an anti-tumor immunotherapeutic agent in various clinical trials and yields significant improvement in progression-free survival 7,8,9,10.

Known Reactivity Species:

Human

Expression Host:

HEK-293 Cells

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Format:
Purified No Carrier Protein

Immunogen:
Human PD-L1

Formulation
This biosimilar antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Purity
≥95% by SDS Page, ≥95% monomer by analytical SEC

Endotoxin
< 1.0 EU/mg as determined by the LAL method

Storage and Stability
Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C.
Avoid Repeated Freeze Thaw Cycles.

Product Preparation
Recombinant biosimilar antibodies are manufactured in an animal free facility using only in vitro protein free cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Other Applications Reported in Literature:
ELISA
WB
IP
FA
FC

Antagonist

Country of Origin
USA

References
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