

Anti-hPD-L1-hIgG1 (N298A)

Recombinant monoclonal human IgG1 (N298A) antibody against human PD-L1

Catalog code: hpd11-mab12, hpd11-mab12-1

<https://www.invivogen.com/anti-human-pdl1-atezolizumab>

For research use only, not for diagnostic or therapeutic use

Version 23L18-MM

PRODUCT INFORMATION

Contents: Anti-hPD-L1-hIgG1 (N298A) purified monoclonal antibody (mAb) is provided azide-free and lyophilized. It is available in two quantities:

hpd11-mab12: 100 µg Anti-hPD-L1-hIgG1 (N298A)

hpd11-mab12-1: 1 mg Anti-hPD-L1-hIgG1 (N298A)

Target: Human Programmed death-ligand 1

Species reactivity: Human and mouse

Source: CHO cells

Isotype: Human IgG1 (N298A)

Light chain type: Kappa

Clonality: Monoclonal

Purification: By affinity chromatography with protein G

Formulation: 0.2 µm filtered solution in a sodium phosphate buffer with glycine, saccharose, and stabilizing agents

Storage and stability

- Product is shipped at room temperature. Upon receipt, store at -20 °C.
- Reconstituted antibody is stable for 1 month when stored at 4 °C and for 1 year when aliquoted and stored at -20 °C. Avoid repeated freeze-thaw cycles.

Quality control

- Binding of Anti-hPD-L1-hIgG1 (N298A) to surface expressed human PD-L1 on target cells has been validated using flow cytometry.
- Absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and TLR4 cellular assays.

PRODUCT DESCRIPTION

Anti-hPD-L1-hIgG1 (N298A) is a recombinant monoclonal antibody (mAb) featuring a fully sequenced variable region equivalent to Atezolizumab, that recognizes human (h)PD-L1, and the constant region of the engineered human (h)IgG1 (N298A) isotype. Anti-hPD-L1-hIgG1 (N298A) was generated by recombinant DNA technology, produced in CHO cells, and purified by affinity chromatography with protein G.

PD-L1 background

Programmed cell death ligand 1 (PD-L1), also known as cluster of differentiation 274 (CD274) or B7 homolog 1 (B7-H1) is a transmembrane protein that can be constitutively expressed or induced in myeloid, lymphoid, and normal epithelial cells, as well as in cancer^{1,2}. PD-L1 is the principle ligand for programmed cell death protein 1 (PD-1). This interaction is essential in the development of immune tolerance preventing excessive immune cell activity. However, PD-L1 expression is an immune evasion mechanism exploited by various malignancies³. Specifically, over-expressed PD-L1 on tumor cells and tumor infiltrating immune cells, such as macrophages, is able to bind to PD-1 on cytotoxic T cells, and ultimately inhibit the anti-tumor T cell response^{2, 4}.

Thus, there are numerous PD-L1 inhibitors in development as promising immuno-oncology therapies. Notably, Atezolizumab (also known as MPDL3280A), a fully humanized IgG1 (N298A) mAb that blocks the interaction of PD-L1 with PD-1 and induces anti-tumor immune reactivation, has been approved by the FDA for combinational use in the treatment of lung and breast cancer^{2,5}.

IgG1 (N298A) isotype effector function

Human IgG1 (N298A) is designed to limit antibody-dependent cytotoxicity (ADCC) and complement-dependent cytotoxicity (CDC), by eliminating the ability of the mAb to bind to human Fcγ receptors.

1. Juneja V.R. et al. 2017. PD-L1 on tumor cells is sufficient for immune evasion in immunogenic tumors and inhibits CD8 T cell cytotoxicity. *J Exp Med* 214, 895-904. **2. Kythreotou A. et al. 2018.** PD-L1. *J Clin Pathol* 71, 189-194. **3. Sun C. et al. 2018.** Regulation and Function of the PD-L1 Checkpoint. *Immunity* 48, 434-452. **4. Lau J. et al. 2017.** Tumour and host cell PD-L1 is required to mediate suppression of anti-tumour immunity in mice. *Nat Commun* 8, 14572. **5. Heimes A.S. & Schmidt M. 2019.** Atezolizumab for the treatment of triple-negative breast cancer. *Expert Opin Investig Drugs* 28, 1-5.

METHODS

Anti-hPD-L1-hIgG1 (N298A) resuspension

Note: Ensure you see the lyophilized pellet before resuspension.

- Add 1 ml of sterile water to 100 µg to obtain a stock solution at 100 µg/ml.
- Add 1 ml of sterile water to 1 mg to obtain a stock solution at 1 mg/ml.
- Gently pipette until completely resuspended.

ANTIBODY ISOTYPE COLLECTION

For your research, InvivoGen provides an Anti-hPD-L1 isotype family. This isotype family consists of mAbs comprising a variable region equivalent to Atezolizumab and differing constant regions of both natural and engineered human isotypes (*see related products*). The isotypes differ in their functional and effector functions, such as antibody-dependent cell-mediated cytotoxicity (ADCC) and complement dependent cytotoxicity (CDC).

Disclaimer: The terms "Atezolizumab" and "MPDL3280A" are only used as references. Anti-hPD-L1-hIgG1 (N298A) is not a pharmaceutical biosimilar of Atezolizumab. It has not been developed nor approved by Atezolizumab owner(s), and is not intended for any therapeutic or diagnostic use in human or animal.

RELATED PRODUCTS

Product	Catalog Code
Anti-hPD-L1-hIgG1	hpd11-mab1
Anti-hPD-L1-hIgG1fut	hpd11-mab13
Raji-hPD-L1 Cells	raji-hpd11

TECHNICAL SUPPORT

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