

Anti-mPD-1-mIgG1e3 InvivoFit™

RMP1-14-derived recombinant mouse monoclonal antibody against murine PD-1

Catalog code: mpd1-mab15-1, mpd1-mab15-10

<https://www.invivogen.com/anti-mpd1-migg1e3-invivofit>

For research use only, not for diagnostic or therapeutic use

Version 20L14-MM

PRODUCT INFORMATION

Contents:

Anti-mPD-1-mIgG1e3 InvivoFit™, purified monoclonal antibody (mAb), provided azide-free and lyophilized. It is available in two pack sizes:

- 1 mg
- 10 mg

Target: Murine programmed cell death 1 (mPD-1)

Clone: RMP1-14-derived

Source: Chinese hamster ovary (CHO) cells

Sequence: ~65% murine (constant region) and ~35% rat (variable region)

Isotype: Murine IgG1e3 (D265A mutation; no effector function)

Light chain type: Kappa

Purification: Affinity chromatography with protein A

Formulation: 0.2 µm filtered solution in 150 mM sodium chloride, 20 mM sodium phosphate buffer with 5% saccharose

Administration: Suitable for parenteral delivery in mice

Tested applications: Flow cytometry and ELISA

Antibody resuspension (2 mg/ml)

Note: Ensure you see the lyophilized pellet before resuspension.

Resuspend Anti-mPD-1-mIgG1e3 InvivoFit with sterile water:

- Add 500 µl to 1 mg
- Add 5 ml to 10 mg

Storage and stability

- Product is shipped at room temperature. Store lyophilized antibody at -20 °C. Lyophilized product is stable for at least 1 year.
- Reconstituted antibody is stable for 1 month at 4 °C and for 1 year at -20 °C. Avoid repeated freeze-thaw cycles.

Quality control

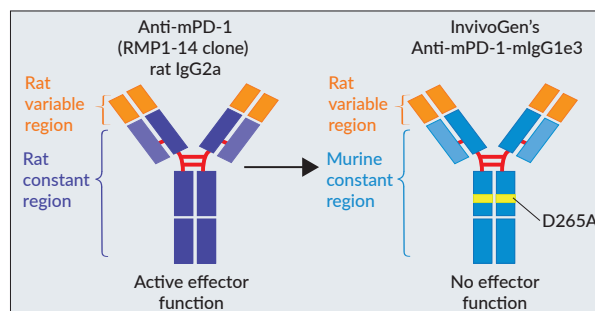
- Binding of Anti-mPD-1-mIgG1e3 InvivoFit™ to mPD-1 has been confirmed using flow cytometry.
- The complete sequence of this antibody has been verified.
- <5% aggregates (confirmed by size exclusion chromatography).
- Anti-mPD1-mIgG1e3 InvivoFit™ is guaranteed sterile and its endotoxin level is <1 EU/mg (determined by the LAL assay).

BACKGROUND

Programmed cell death 1 (PD-1; also known as CD279) is a type I transmembrane protein expressed at the cell surface of activated and exhausted conventional T cells¹. PD-1 is an inhibitory immune checkpoint that prevents T-cell overstimulation and host damage. PD-1 interaction with its ligands PD-L1 (programmed cell death ligand 1) or PD-L2 induces inhibition of T-cell receptor signaling¹. Blockade of PD-1 with mAbs has allowed unprecedented remissions in patients with metastatic melanoma or non-small cell lung cancer¹.

DESCRIPTION

Anti-mPD-1-mIgG1e3 InvivoFit™ is a recombinant mAb designed for *in vivo* studies in mice. It features the variable region of the previously described anti-mPD-1 RMP1-14 mAb² and the engineered murine IgG1e3 constant region. The RMP1-14 mAb targets and blocks mPD-1 antigen². However, the RMP1-14 mAb, along with other commercially available anti-mPD-1 mAbs, were generated in rats, and are therefore immunogenic in mice. Additionally, these mAbs feature the IgG2a isotype which promotes antibody-dependent cellular cytotoxicity. To overcome these two issues, InvivoGen offers a mouse anti-mouse mAb (non-immunogenic) featuring an isotype devoid of effector function. Anti-mPD-1-mIgG1e3 InvivoFit™ was generated by recombinant DNA technology so that it is ~65% murine (constant region) and with a point mutation D265A (a replacement of aspartic acid by alanine at position 265), resulting in the complete loss of cytolytic effector function^{2,3}. Anti-mPD-1-mIgG1e3 InvivoFit™ is thus ideal for blocking the mPD-1 receptor without causing T cell depletion. This antibody is produced in CHO cells and purified by affinity chromatography with protein A.



InvivoGen's engineered Anti-mPD-1-mIgG1e3 InvivoFit™ antibody.

1. Ribas A. & Wolchock J.D., 2018. Cancer immunotherapy using checkpoint blockade. *Science*. 359:1350-55. 2. Yamazaki T. et al., 2005. Blockade of B7-H1 on macrophages suppresses CD4+ T cell proliferation by augmenting IFN-gamma-induced nitric oxide production. *J Immunol*. 175(3):1586-92. 3. Baudino L. et al., 2008. Crucial role of aspartic acid at position 265 in the CH2 domain for murine IgG2a and IgG2b Fc-associated effector functions. *J Immunol*. 181(9):6664-9.

RELATED PRODUCTS

Product	Catalog Code
Anti-hPD1-Pem-hIgG4 (S228P) (Pembrolizumab)	hpd1pe-mab14
Anti-hPD1-Ni-hIgG4 (S228P) (Nivolumab)	hpd1ni-mab114
Anti-mCTLA4-mIgG2a InvivoFit™	mctla4-mab10-1
Anti-PD-L1-mIgG1 InvivoFit™	pd1l-mab9-1
Raji-hPD-1 Cells	raji-hpd1

Other antibody isotype families are available, such as Anti-hCD20 and Anti-HER2. For more information visit <https://www.invivogen.com/antibody-isotypes>.

TECHNICAL SUPPORT

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