

Anti-hPD1-Pem-hIgA2

Monoclonal human IgA2 antibody against human PD-1

Catalog # hpd1pe-mab7

<http://www.invivogen.com/anti-hpd1-pem-higa2>

For research use only, not for diagnostic or therapeutic use

Version # 17F27-MM

PRODUCT INFORMATION

Content: 100 µg anti-hPD1-Pem-hIgA2, purified antibody, provided azide-free and lyophilized

Target: Human programmed cell death 1 (hPD-1) receptor

Specificity: Cells expressing hPD-1

Clonality: Monoclonal antibody

Isotype: Human IgA2

Source: CHO cells

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

Purity: Purified by affinity chromatography with peptide M

Antibody resuspension

Add 1 ml of sterile water to obtain a concentration of 0.1 mg/ml.

Storage

- 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 when stored at 4°C and for 1 year when aliquoted and stored at -20°C. Avoid repeated freeze-thaw cycles.

Quality control

- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.
- The recognition of PD1 with this antibody has been tested using flow cytometry.

DESCRIPTION

Anti-hPD1-Pem-hIgA2 features the constant region of the human IgA2 isotype and the variable region of pembrolizumab. Pembrolizumab is a humanized IgG4 monoclonal antibody that contains an engineered hinge region mutation (S228P) designed to prevent exchange of IgG4 molecules. This antibody targets the PD-1 receptor found on activated T cells, B cells, and myeloid cells. Under normal physiological conditions, PD-1 negatively regulates T cell activation thereby preventing autoimmunity¹. Under pathological conditions, cancer cells produce PD-L1 (programmed cell death 1 ligand 1), the agonist that binds and activates PD-1. Activated PD-1 enables the cancer cells to evade the immune system. Pembrolizumab binds and blocks the activation of the PD-1 receptor, thereby resulting in the activation of T cells². Pembrolizumab has been approved by the FDA for the treatment of metastatic malignant melanoma, and is currently under regulatory review in the EU³.

IgA2 is found predominantly in secretory lymphoid tissues, where it plays a critical role in mucosal immunity. IgA2 is highly resistant to enzymatic degradation by bacterial proteases, due to a short hinge region. IgA2 displays no complement dependent cytotoxicity (CDC) and low ADCC.

Anti-hPD1-Pem-hIgA2 was generated by recombinant DNA technology. It has been produced in CHO cells and purified by affinity chromatography.

1. McDermott D. & Atkins M. 2013. PD-1 as a potential target in cancer therapy. Cancer Med. 2(5): 662–673. 2. Tumeq PC. et al., 2014. PD-1 blockade induces responses by inhibiting adaptive immune resistance. Nature. 515(7528):568-71. 3. Poole RM., 2014. Pembrolizumab: first global approval. Drugs. 4(16):1973-81.

TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873

InvivoGen USA (International): +1 (858) 457-5873

InvivoGen Europe: +33 (0) 5-62-71-69-39

InvivoGen Hong Kong: +852 3622-3480

E-mail: info@invivogen.com

APPLICATIONS

Anti-hPD1-Pem-hIgA2 binds and blocks ligand activation of the PD-1 receptor found on the surface of activated T cells.

ANTIBODY ISOTYPE COLLECTION

For your research, InvivoGen provides an anti-hPD1-Pem isotype family. This family consists of monoclonal antibodies comprising the variable region of pembrolizumab, and the constant region of three different human isotypes; IgG1, IgG2, IgG4 (S228P) and IgA2. The isotypes differ in their functional locations and effector functions, such as complement-dependent cytotoxicity (CDC) and antibody-dependent cell-mediated cytotoxicity (ADCC), as presented in the table below.

Isotype	Description
Human IgG1	Most abundant IgG present in serum High CDC, high ADCC
Human IgG2	Second most common IgG present in serum Low CDC, low ADCC
Human IgG4	Least common IgG present in serum No CDC, low ADCC
Human IgG4 (S228P)	Designed to prevent exchange of IgG4 molecules No CDC, low ADCC
Human IgA2	Major class in secretions, oligomeric forms, highly resistant to enzymatic degradation. No CDC, low ADCC

RELATED PRODUCTS

Product	Catalog Code
Anti-β-Gal-hIgA2 (isotype control)	bgal-mab7
Anti-hPD1-Pem-hIgG1	hpd1pe-mab1
Anti-hPD1-Pem-hIgG2	hpd1pe-mab2
Anti-hPD1-Pem-hIgG4 (S228P) (Pembrolizumab)	hpd1pe-mab14

Isotype collections for other antibodies, including anti-hTNF-α, anti-hCD20 and anti-β-Gal (control) are also available.

For more information visit www.invivogen.com/antibody-isotypes