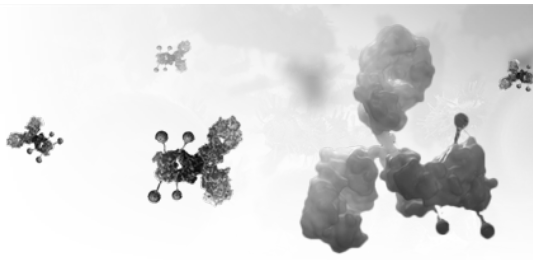

Rat Anti-Mouse PD-1 (CD279) Monoclonal antibody, clone RMP1-14 (CABT-L4430)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Product Overview	The RMP1-14 monoclonal antibody reacts with mouse PD-1 (programmed death-1) also known as CD279. PD-1 is a 50-55 kDa cell surface receptor encoded by the Pdcd1 gene that belongs to the CD28 family of the Ig superfamily. PD-1 is transiently expressed on CD4 and CD8 thymocytes as well as activated T and B lymphocytes and myeloid cells. PD-1 expression declines after successful elimination of antigen. Additionally, Pdcd1 mRNA is expressed in developing B lymphocytes during the pro-B-cell stage. PD-1's structure includes a ITIM (immunoreceptor tyrosine-based inhibitory motif) suggesting that PD-1 negatively regulates TCR signals. PD-1 signals via binding its two ligands, PD-L1 and PD-L2 both members of the B7 family. Upon ligand binding, PD-1 signaling inhibits T-cell activation, leading to reduced proliferation, cytokine production, and T-cell death. Additionally, PD-1 is known to play key roles in peripheral tolerance and prevention of autoimmune disease in mice as PD-1 knockout animals show dilated cardiomyopathy, splenomegaly, and loss of peripheral tolerance. Induced PD-L1 expression is common in many tumors including squamous cell carcinoma, colon adenocarcinoma, and breast adenocarcinoma. PD-L1 overexpression results in increased resistance of tumor cells to CD8 T cell mediated lysis. In mouse models of melanoma, tumor growth can be transiently arrested via treatment with antibodies which block the interaction between PD-L1 and its receptor PD-1. For these reasons anti-PD-1 mediated immunotherapies are currently being explored as cancer treatments. Like the J43 antibody the RMP1-14 antibody has been shown to block the binding of both mouse PD-L1-Ig and mouse PD-L2-Ig to PD-1.
Target	Mouse PD-1 (CD279)
Immunogen	Syrian Hamster BKH cells transfected with mouse PD-1 cDNA
Isotype	IgG2a, κ
Source/Host	Rat
Species Reactivity	Mouse

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Clone	RMP1-14
Purification	Protein G purified. Purity>95%. Determined by SDS-PAGE
Conjugate	Functional Grade
Applications	in vivo blocking of PD-1/PD-L signaling
Molecular Weight	150 kDa
Format	0.2 μM filtered liquid. Purified from tissue culture supernatant in an animal free facility
Concentration	Lot specific
Size	5 mg
Buffer	PBS, pH 7.0. Contains no stabilizers or preservatives. [low endotoxin azide-free] Endotoxin level: <2EU/mg (<0.002EU/μg). Determined by LAL gel clotting assay Related dilution buffer: CABT-LB04
Preservative	None
Storage	The antibody solution should be stored undiluted at 4°C, and protected from prolonged exposure to light. Do not freeze.
Ship	Wet ice

BACKGROUND

Introduction	This gene encodes a cell surface membrane protein of the immunoglobulin superfamily. This protein is expressed in pro-B-cells and is thought to play a role in their differentiation. In mice, expression of this gene is induced in the thymus when anti-CD3 antibodies are injected and large numbers of thymocytes undergo apoptosis. Mice deficient for this gene bred on a BALB/c background developed dilated cardiomyopathy and died from congestive heart failure. These studies suggest that this gene product may also be important in T cell function and contribute to the prevention of autoimmune diseases. [provided by RefSeq, Jul 2008]
Keywords	PDCD1;programmed cell death 1;PD1;PD-1;CD279;SLEB2;hPD-1;hPD-l;hSLE1;programmed cell death protein 1;protein PD-1;systemic lupus erythematosus susceptibility 2;

GENE INFORMATION

Official Symbol	programmed cell death 1

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Synonyms	PDCD1; programmed cell death 1; PD1; PD-1; CD279; SLEB2; hPD-1; hPD-l; hSLE1; programmed cell death protein 1; protein PD-1; systemic lupus erythematosus susceptibility 2;
References	Grasselly, C., et al. (2018). "The Antitumor Activity of Combinations of Cytotoxic Chemotherapy and Immune Checkpoint Inhibitors Is Model-Dependent." Front Immunol 9: 2100. PubMed;McGray, A. J., et al. (2014). "Immunotherapy-induced CD8+ T cells instigate immune suppression in the tumor." Mol Ther 22(1): 206-218. PubMed;Mittal, D., et al. (2014). "Antimetastatic effects of blocking PD-1 and the adenosine A2A receptor." Cancer Res 74(14): 3652-3658. PubMed;John, L. B., et al. (2013). "Anti-PD-1 antibody therapy potently enhances the eradication of established tumors by gene-modified T cells." Clin Cancer Res 19(20): 5636-5646. PubMed;van der Werf, N., et al. (2013). "Th2 cell-intrinsic hypo-responsiveness determines susceptibility to helminth infection." PLoS Pathog 9(3): e1003215. PubMed

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