www.innocyto.com.cn

InnoCyto Inc.

15375 Barranca Pkwy, Suite I-103
Irvine, CA 92618
Email: info@innocyto.com
Phone: 1-949-418-7543

In Vivo Star Anti-Mouse CD279 (PD1) Antibody

Catalog Number:	507601, 507602, 507603
Size:	1 mg, 5 mg, 25 mg
Target Name:	PD1, PD-1, PDCD1, CD279, SLEB2
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	29F.1A12
Application:	ELISA, WB, Flow cytometry, IHC, ICC, animal model study
Reactivity:	Mouse
Format:	Liquid
Product Description:	In Vivo Grade Recombinant Anti-mouse PD-1 Monoclonal Antibody
Isotype:	Rat IgG2a Kappa
Antibody Type:	Recombinant
Purity:	>95% by reducing SDS-PAGE
Endotoxin:	< 1 EU per 1 mg of the protein by the LAL method.
Storage Conditions:	4ºC
Grade:	In vivo
Recommended Usage:	This product is suitable for in vivo animal use. Optimal amounts need to be determined empirically for each experiment.
Hidden Synonyms:	InVivoMab, InVivoPlus, GoInVivo, In Vivo Gold

BACKGROUND INFORMATION

CD279, also known as Programmed Cell Death Protein 1 (PD-1), is a crucial immune checkpoint receptor that regulates T cell activation and prevents autoimmunity. This transmembrane protein plays a pivotal role in maintaining immune homeostasis by delivering inhibitory signals that dampen excessive immune responses.

PD-1 is a type I transmembrane glycoprotein belonging to the immunoglobulin superfamily. It contains an extracellular immunoglobulin variable (IgV)-like domain, a transmembrane region, and an intracellular tail with two tyrosine-based signaling motifs: an immunoreceptor tyrosine-based inhibitory motif (ITIM) and an immunoreceptor tyrosine-based switch motif (ITSM). When engaged, these motifs recruit phosphatases that inhibit T-cell receptor signaling, effectively suppressing T-cell activation, proliferation, and cytokine production.

PD-1 interacts with two primary ligands: PD-L1 (B7-H1/CD274) and PD-L2 (B7-DC/CD273). PD-L1 is widely expressed on various cell types, including tumor cells, antigen-presenting cells, and non-hematopoietic tissues, while PD-L2 expression is more restricted to antigen-presenting cells. These ligand-receptor interactions serve as critical brakes on immune responses. In cancer, tumor cells

exploit the PD-1/PD-L1 pathway to evade immune surveillance. By upregulating PD-L1 expression, tumors effectively "turn off" infiltrating T-cells, preventing effective anti-tumor immunity. This mechanism contributes to tumor progression and immune escape across multiple cancer types.

The discovery of PD-1's role in cancer has revolutionized oncology through immune checkpoint inhibitors. Monoclonal antibodies targeting PD-1 (pembrolizumab, nivolumab) or PD-L1 (atezolizumab, durvalumab) block this inhibitory pathway, reinvigorating anti-tumor T-cell responses. These therapies have demonstrated remarkable success in treating melanoma, non-small cell lung cancer, renal cell carcinoma, and numerous other malignancies, fundamentally transforming cancer treatment paradigms and offering durable responses in previously untreatable cancers.

This product is supplied subject to the terms and conditions at www.innocyto.com.cn/web/terms.php and may only be used as provided in the stated terms. Products are for Research Use Only.