

## IVMB0537

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### Product Information

<b>Product SKU:</b> IVMB0537	<b>Clone:</b> PDR001	<b>Target:</b> PD-1
<b>Size:</b> 1 mg, 500 µg		<b>Isotype:</b> Human IgG4k

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### Additional Information

<b>Reactivity:</b> Human	<b>Host Species:</b> Human
<b>Antibody Type:</b> Biosimilar Recombinant Human Monoclonal Antibody	<b>Expression Host:</b> HEK-293 Cells

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### Immunogen Information

**Background:** PD-1 is a transmembrane protein in the CD28/CTLA-4 subfamily of the Ig superfamily <sup>1, 2</sup>. When stimulated via the T cell receptor (TCR), Tregs translocate PD-1 to the cell surface <sup>3</sup>. Programmed cell death 1 ligand 1 (PD-L1; CD274; B7H1) and programmed cell death 1 ligand 2 (PD-L2; CD273; B7DC) have been identified as PD-1 ligands <sup>1</sup>. PD-1 is co-expressed with PD-L1 on tumor cells and tumor-infiltrating antigen-presenting cells (APCs) <sup>2</sup>. Additionally, PD-1 is co-expressed with IL2RA on activated CD4 + T cells <sup>3</sup>.

PD-1 is an immune checkpoint receptor that suppresses cancer-specific immune responses <sup>4</sup>. Additionally, PD-1 acts as a T cell inhibitory receptor and plays a critical role in peripheral tolerance induction and autoimmune disease prevention as well as important roles in the survival of dendritic cells, macrophage phagocytosis, and tumor cell glycolysis <sup>2</sup>. PD-1 prevents uncontrolled T cell activity, leading to attenuation of T cell proliferation, cytokine production, and cytolytic activities. Additionally, the PD-1 pathway is a major mechanism of tumor immune evasion, and, as such, PD-1 is a target of cancer immunotherapy <sup>2</sup>.

Spartalizumab is a humanized IgG4 anti-PD1 antibody that has been tested for the treatment of various cancers <sup>5, 6</sup>. Spartalizumab binds PD-1 with sub-nanomolar affinity and blocks interactions with ligands PD-L1 and PD-L2, leading to T cell activation <sup>5</sup>.

**Endotoxin Level:** < 1.0 EU/mg as determined by the LAL method

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<b>Applications:</b>	ELISA
<b>Synonyms:</b>	CD279, PD1, Anti-PD1, PDCD1
<b>Antigen Distribution:</b>	PD-1 is expressed on activated T cells, B cells, a subset of thymocytes, macrophages, dendritic cells, and some tumor cells and is also retained in the intracellular compartments of regulatory T cells (Tregs).
<b>Immunogen:</b>	Human PD-1
<b>Formulation:</b>	This biosimilar antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.
<b>Specificity:</b>	Spartalizumab activity is directed against human PD-1.
<b>Product Preparation:</b>	Recombinant biosimilar antibodies are manufactured in an animal free facility using only in vitro protein free cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.
<b>Storage &amp; Handling:</b>	Functional grade biosimilar antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at -80°C. Avoid Repeated Freeze Thaw Cycles.