Anti-Human PD-1 (Cemiplimab)

IVMB0479

Product Information

Product SKU:	IVMB0479	**Clone**:	REGN2810	**Target**:	PD-1
Size:	500 µg			**Isotype**:	Human IgG4κ

Additional Information

Reactivity:	Human	**Host Species**:	Human
Antibody Type:	Biosimilar Recombinant Human Monoclonal Antibody	**Expression Host**:	HEK-293 Cells

Immunogen Information

Background:

PD-1 is a transmembrane protein in the CD28/CTLA-4 subfamily of the Ig superfamily[1], [2]. When stimulated via the T cell receptor (TCR), Tregs translocate PD-1 to the cell surface[3]. 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[1]. PD-1 is co-expressed with PD-L1 on tumor cells and tumor-infiltrating antigen-presenting cells (APCs)[2]. Additionally, PD-1 is co-expressed with IL2RA on activated CD4+ T cells[3].

PD-1 is an immune checkpoint receptor that suppresses cancer-specific immune responses[4]. 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[2]. 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[2].

Cemiplimab is a fully human, hinge-stabilized (S228P) high affinity anti-PD-1 antibody that potently blocks PD-1 interaction with PD-L1 and PD-L2 ligands and enhances human primary T-cell responses in vitro[5]. Cemiplimab was generated using VelocImmune knock-in mice immunized with recombinant human PD-1-mFc protein containing the PD-1 extracellular domain (amino acids 1-167) and the Fc portion of mouse IgG2a. Splenocyte-

Contact Details | Dublin, Ireland
Email: techsupport@assaygenie.com | **Web:** www.assaygenie.com

derived hybridomas were screened for human monoclonal antibody reactivity to recombinant human PD-1-hFc (extracellular domain of human PD-1 fused to human IgG1 Fc).

Cemiplimab is the first approved treatment in the United States and EU for patients with locally advanced or metastatic cutaneous squamous cell carcinoma who are not candidates for curative surgery or radiotherapy[6].

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

Applications: ELISA

Synonyms: CD279, PD1, REGN-2810, Anti-PD1, PDCD1

Antigen Distribution: 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).

Immunogen: Human PD-1

Formulation: 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.

Specificity: This non-therapeutic biosimilar antibody uses the same variable region sequence as the therapeutic antibody Cemiplimab. This product is for research use only. Cemiplimab activity is directed against Human PD-1.

Product Preparation: Recombinant biosimilar antibodies are manufactured in an animal free facility using onlyin vitroprotein 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.

Storage & Handling: 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.