Recombinant PDCD1 protein (His tag)

Catalog Number	542702
Synonyms	Protein PD-1; hPD-1; CD antigen CD279
Species	Human
Expression System	E. coli
Accession	Q15116
Molecular Weight	Predictes a molecular mass of 17.92 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 18 kDa band.

Product Information

Sequence Region	25-170
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 25-170 aa (Q15116) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human PD-1 (Programmed cell death protein 1) Fragment (aa 25-170) is a high-purity protein encompassing the Ig-like V-type domain. This fragment serves as a critical tool for investigating immune checkpoint regulation, T-cell inhibition mechanisms, and therapeutic targeting in cancer immunotherapy and autoimmune research. Programmed cell death protein 1 (PD-1/CD279) is an inhibitory receptor expressed on antigen-activated T-cells that plays a fundamental role in maintaining immune tolerance and preventing autoimmunity. It functions by binding to ligands CD274/PD-L1 and CD273/PD-L2, delivering inhibitory signals that suppress T-cell activation through recruitment of phosphatase PTPN11/SHP-2, which dephosphorylates key TCR signaling molecules. The PD-1 pathway is critically exploited by tumors to evade immune destruction, making it a major target for cancer immunotherapy. Blockade of PD-1 signaling can reverse T-cell exhaustion and restore anti-tumor immunity. As a single-pass type I membrane protein localized to the cell surface, PD-1's extracellular domain fragments are essential for studying ligand interactions and developing therapeutic antibodies.