



20150217ML

# Anti-Human PD-1 (#9X21)

**FOR RESEARCH ONLY! NOT FOR HUMAN USE!**

<b>Cat.-no.:</b>	<b>101-M602</b>
Size:	100 µg
Lot. No.:	According to product label

**Preparation:** This antibody was produced from a hybridoma (mouse myeloma fused with spleen cells from a mouse) immunized with human PD-1.

## Target Background

<b>Synonyms (Target):</b>	PDCD1; PD1; PD-1; CD279; SLEB2; hPD-1; hPD-1
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Programmed Death1 (PD1) is a type I transmembrane protein belonging to the CD28/CTLA4 family of immunoreceptors that mediate signals for regulating immune responses. Members of the CD28/CTLA4 family have been shown to either promote T cell activation (CD28 and ICOS) or downregulate T cell activation (CTLA4 and PD1). PD1 is expressed on activated T cells, B cells, myeloid cells, and on a subset of thymocytes. In vitro, ligation of PD1 inhibits TCR-mediated T cell proliferation and production of IL1, IL4, IL10, and IFN $\gamma$ . In addition, PD1 ligation also inhibits BCR mediated signaling. PD1 deficient mice have a defect in peripheral tolerance and spontaneously develop autoimmune diseases. Two B7 family proteins, PDL1 (also called B7H1) and PDL2 (also known as B7DC), have been identified as PD1 ligands. Unlike other B7 family proteins, both PDL1 and PDL2 are expressed in a wide variety of normal tissues including heart, placenta, and activated spleens. The wide expression of PDL1 and PDL2 and the inhibitor effects on PD1 ligation indicate that PD1 might be involved in the regulation of peripheral tolerance and may help prevent autoimmune diseases. The human PD1 gene encodes a 288 amino acid (aa) protein with a putative 20 aa signal peptide, a 148 aa extracellular region with one immuno-globulin-like V-type domain, a 24 aa transmembrane domain, and a 95 aa cytoplasmic region. The cytoplasmic tail contains two tyrosine residues that form the immunoreceptor tyrosinebased inhibitory motif (ITIM) and immunoreceptor tyrosine-based switch motif (ITSM) that are important in mediating PD1 signaling. Mouse and human PD1 share approximately 60% aa sequence identity.

## Database References Target

<b>Protein RefSeq:</b>	NP_005009.2
<b>Uniprot ID:</b>	Q15116
<b>mRNA RefSeq:</b>	NM_005018.2

## Product Specifications

<b>Host</b>	Mouse
<b>Reactivity against</b>	Human
<b>Clonality</b>	Monoclonal Antibody
<b>Clone</b>	(#9X21)
<b>Isotype</b>	IgG2
<b>Purification</b>	Protein G chromatography
<b>Antigen</b>	recombinant human PD-1
<b>Formulation</b>	lyophilized
<b>Reconstitution buffer</b>	PBS (sterile)

**Reconstitution:** Reconstitute the antibody with 200 µl sterile PBS and the final concentration is 500 µg/ml.

**Stability:** Lyophilized samples are stable for 2 years from date of receipt when stored at -70°C. Reconstituted antibody can be aliquoted and stored frozen at < -20 °C for at least for six months without detectable loss of activity.

**Remarks:** This antibody was selected for its ability to detect specifically human PD-1.

**AVOID REPEATED FREEZE AND THAW CYCLES!**

## Applications

The antibody can be used within the following applications:

WB, N

### Recommended usage:

Neutralization of PD-1 bioactivity: Yes

WB: Use at 1:500-1000

**NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!**