#43248 Store at -20C

PD-1 (EH33) Mouse mAb

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IHC-Bond, IHC-P	H	Endogenous	Mouse IgG2a	#Q15116	5133

Product Usage Information

Application	Dilution
IHC Leica Bond	1:100
Immunohistochemistry (Paraffin)	1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

For a carrier-free (BSA and Azide) version of this product see product #60847.

Specificity / Sensitivity

PD-1 (EH33) Mouse mAb recognizes transfected and endogenous levels of total PD-1 protein by immunohistochemistry on formalin-fixed paraffin-embedded tissue sections.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the amino terminus of human PD-1 protein.

Background

The programmed cell death 1 protein (PD-1, PDCD1, CD279) is a member of the CD28 family of immunoreceptors that regulate T cell activation and immune responses (1-3). The PD-1 protein contains an extracellular Ig V domain, a transmembrane domain, and a cytoplasmic tail that includes an immunoreceptor tyrosine-based inhibitory motif (ITIM) and an immunoreceptor tyrosine-based switch motif (ITSM). PD-1 is activated by the cell surface ligands PD-L1 and PD-L2 (4). Upon activation, PD-1 ITIM and ITSM phosphorylation leads to the recruitment of the protein tyrosine phosphatases SHP-1 and SHP-2, which suppress TCR signaling (5-7). In addition to activated T cells, PD-1 is expressed in activated B cells and monocytes, although its function in these cell types has not been fully characterized (8). The PD-1 pathway plays an important role in immune tolerance (3); however, research studies show that cancer cells often adopt this pathway to escape immune surveillance (9). Consequently, blockade of PD-1 and its ligands is proving to be a sound strategy for neoplastic intervention (10).

Background References

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2. Shinohara, T. et al. (1994) *Genomics* 23, 704-6.
3. Nishimura, H. et al. (1999) *Immunity* 11, 141-51.
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6. Sheppard, K.A. et al. (2004) *FEBS Lett* 574, 37-41.
7. Chemnitz, J.M. et al. (2004) *J Immunol* 173, 945-54.
8. Thibult, M.L. et al. (2013) *Int Immunol* 25, 129-37.
9. Dong, H. et al. (2002) *Nat Med* 8, 793-800.
10. Topalian, S.L. et al. (2012) *Curr Opin Immunol* 24, 207-12.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

IHC-Bond: IHC Leica Bond **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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