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PD-1 (Intracellular Domain) (D7D5W) XP[®] Rabbit mAb (Alexa Fluor[®] 594 Conjugate)

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IF-F, IF-IC	M	Endogenous	Rabbit IgG	#Q02242	18566
Product Usage Information	Application			Dilution	
	Immunofluorescence (Frozen)			1:50	
	Immunofluorescence (Immunocytochemistry)			1:400 - 1:800	
Storage	Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.				
Specificity/Sensitivity	PD-1 (Intracellular Domain) (D7D5W) XP [®] Rabbit mAb (Alexa Fluor [®] 594 Conjugate) recognizes endogenous levels of total PD-1 protein. PD-1 (Intracellular Domain) (D7D5W) XP [®] Rabbit mAb (Alexa Fluor [®] 594 Conjugate) #83707 non-specifically labels the crypts of small intestine by Immunofluorescence.				
Species predicted to react based on 100% sequence homology	Rat, Hamster				
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala242 of mouse PD-1 protein.				
Description	This Cell Signaling Technology antibody is conjugated to Alexa Fluor [®] 594 fluorescent dye and tested in-house for direct immunofluorescent analysis in mouse cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated PD-1 (Intracellular Domain) (D7D5W) XP [®] Rabbit mAb #84651.				
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	<ol style="list-style-type: none"> Ishida, Y. et al. (1992) <i>EMBO J</i> 11, 3887-95. Shinohara, T. et al. (1994) <i>Genomics</i> 23, 704-6. Nishimura, H. et al. (1999) <i>Immunity</i> 11, 141-51. Freeman, G.J. et al. (2000) <i>J Exp Med</i> 192, 1027-34. Yokosuka, T. et al. (2012) <i>J Exp Med</i> 209, 1201-17. Sheppard, K.A. et al. (2004) <i>FEBS Lett</i> 574, 37-41. Chemnitz, J.M. et al. (2004) <i>J Immunol</i> 173, 945-54. Thibult, M.L. et al. (2013) <i>Int Immunol</i> 25, 129-37. Dong, H. et al. (2002) <i>Nat Med</i> 8, 793-800. Topalian, S.L. et al. (2012) <i>Curr Opin Immunol</i> 24, 207-12. 				

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

Applications Key **IF-F:** Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key **M:** Mouse

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