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Galectin-9 (D9R4A) XP® Rabbit mAb (Alexa Fluor® 647 Conjugate)



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TECHNOLOGY®

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

Applications: FC-FP	Reactivity: H	Sensitivity: Endogenous	Source/Isotype: Rabbit IgG	UniProt ID: #O00182	Entrez-Gene Id: 3965
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Product Usage Information	Application Flow Cytometry (Fixed/Permeabilized)	Dilution 1:50
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	Galectin-9 (D9R4A) XP® Rabbit mAb (Alexa Fluor® 647 Conjugate) recognizes endogenous levels of total galectin-9 protein.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with recombinant human galectin-9 protein.	
Product Description	This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-house for direct flow cytometric analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated Galectin-9 (D9R4A) XP® Rabbit mAb #54330.	
Background	<p>Galectins are a family of β-galactose binding proteins that are characterized by an affinity for poly-N-acetyllactosamine-enriched glycoconjugates and a carbohydrate-binding site (1,2). Members of the galectin family have been implicated in a variety of biological functions, including cell adhesion (3), growth regulation (4), cytokine production (5), T-cell apoptosis (6), and immune responses (7).</p> <p>Galectin-9 is induced by proinflammatory stimuli, including IFN-γ, TNF-α, and TLR ligands, and regulates various immune responses through interaction with its ligand TIM-3 (8, 9). Binding of galectin-9 to TIM-3 expressed by Th1 CD4 T cells resulted in T cell death (9). On the other hand, galectin-9 treatment of tumor-bearing mice increased the number of IFN-γ-producing TIM-3+ CD8 T cells and TIM-3+ dendritic cells (10). Transgenic overexpression of either TIM-3 or galectin-9 in mice led to an increase in cells with a myeloid-derived suppressor cell phenotype and inhibition of immune responses (11). CD44 is also proposed to be a receptor for galectin-9, and interaction of galectin-9 with CD44 expressed by induced regulatory T (iTreg) cells enhanced the stability of function of iTreg cells. In addition, galectin-9 was recently demonstrated to bind Dectin-1 expressed by pancreatic ductal adenocarcinoma-infiltrating macrophages, resulting in tolerogenic macrophage reprogramming and suppression of anti-tumor immunity. Increased galectin-9 expression has been observed in several cancer types, including lung, liver, breast, and kidney (12). Alternative splicing of the galectin-9 transcript leads to several isoforms (13).</p>	
Background References	<ol style="list-style-type: none"> 1. Barondes, S.H. et al. (1994) <i>Cell</i> 76, 597-8. 2. Barondes, S.H. et al. (1994) <i>J Biol Chem</i> 269, 20807-10. 3. Offner, H. et al. (1990) <i>J Neuroimmunol</i> 28, 177-84. 4. Wells, V. and Mallucci, L. (1991) <i>Cell</i> 64, 91-7. 5. Filer, A. et al. (2009) <i>Arthritis Rheum</i> 60, 1604-14. 6. Perillo, N.L. et al. (1995) <i>Nature</i> 378, 736-9. 7. Cooper, D.N. et al. (1991) <i>J Cell Biol</i> 115, 1437-48. 8. Gieseke, F. et al. (2013) <i>Eur J Immunol</i> 43, 2741-9. 9. Zhu, C. et al. (2005) <i>Nat Immunol</i> 6, 1245-52. 10. Nagahara, K. et al. (2008) <i>J Immunol</i> 181, 7660-9. 11. Dardalhon, V. et al. (2010) <i>J Immunol</i> 185, 1383-92. 12. Heusschen, R. et al. (2014) <i>Biochim Biophys Acta</i> 1842, 284-92. 13. Heusschen, R. et al. (2013) <i>Biol Reprod</i> 88, 22. 	

Species Reactivity

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

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized)**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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