

Store at
4°C

Galectin-9 (D9R4A) XP[®] Rabbit mAb (Alexa Fluor[®] 488 Conjugate)

#53500



Cell Signaling
TECHNOLOGY[®]

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Entrez-Gene ID #3965
UniProt ID #000182

New 03/18

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Applications
F
Endogenous

Species Cross-Reactivity
H

Isotype
Rabbit IgG

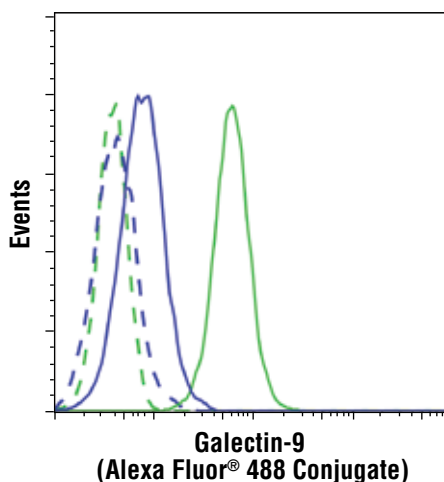
Description: This Cell Signaling Technology antibody is conjugated to Alexa Fluor[®] 488 fluorescent dye and tested in-house for direct flow cytometric analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated Galectin-9 (D9R4A) XP[®] Rabbit mAb #54330.

Background: Galectins are a family of β -galactose binding proteins that are characterized by an affinity for poly-N-acetyl-lactosamine-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).

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).

Specificity/Sensitivity: Galectin-9 (D9R4A) XP[®] Rabbit mAb (Alexa Fluor[®] 488 Conjugate) recognizes endogenous levels of total galectin-9 protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with recombinant human galectin-9 protein.



Flow cytometric analysis of PANC-1 cells (blue) and U-937 cells (green) using Galectin-9 (D9R4A) XP[®] Rabbit mAb (Alexa Fluor[®] 488 Conjugate) (solid lines) or a concentration-matched Rabbit (DA1E) mAb IgG XP[®] Isotype Control (Alexa Fluor[®] 488 Conjugate) #2975 (dashed lines).

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.

Recommended Antibody Dilutions:

Flow Cytometry 1:50

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

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- (6) Perillo, N.L. et al. (1995) *Nature* 378, 736-9.
- (7) Cooper, D.N. et al. (1991) *J Cell Biol* 115, 1437-48.
- (8) Gieseke, F. et al. (2013) *Eur J Immunol* 43, 2741-9.
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- (12) Heusschen, R. et al. (2014) *Biochim Biophys Acta* 1842, 284-92.
- (13) Heusschen, R. et al. (2013) *Biol Reprod* 88, 22.

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IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% XXX, 1X TBS, 0.1% Tween[®]20 at 4°C with gentle shaking, overnight.

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