Human/Mouse/Rat Galectin-3 Antibody

Monoclonal Rat IgG_{2A} Clone # 202213

Catalog Number: MAB1197

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse, and rat Galectin-3 in Western blots. Detects human and mouse Galectin-3 in direct ELISAs. In direct ELISAs, no cross-reactivity with rhGalectin-2, -4, -8 or recombinant mouse Galectin-1, -4, or -7 is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 202213
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant mouse Galectin-3 Ala2-Ile264 Accession # P16110
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

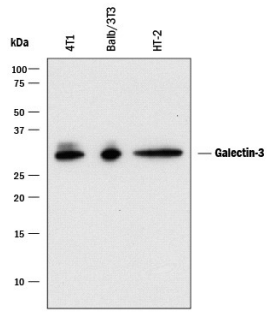
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.25-0.5 µg/mL	See Below
Simple Western	10 µg/mL	See Below
Mouse Galectin-3 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Human/Mouse/Rat Galectin-3 Antibody (Catalog # MAB1197)
ELISA Detection	0.1-0.4 µg/mL	Mouse Galectin-3 Biotinylated Antibody (Catalog # BAF1197)
Standard		Recombinant Mouse Galectin-3 (Catalog # 1197-GA)

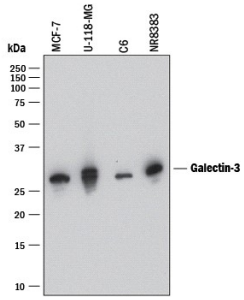
DATA

Western Blot



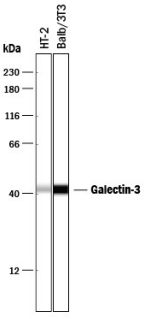
Detection of Mouse Galectin-3 by Western Blot. Western blot shows lysates of 4T1 mouse breast cancer cell line, Balb/3T3 mouse embryonic fibroblast cell line and HT-2 mouse T cell line. PVDF membrane was probed with 0.25 µg/mL of Rat Anti-Mouse Galectin-3 Monoclonal Antibody (Catalog # MAB1197) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for Galectin-3 at approximately 28 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Western Blot



Detection of Human and Rat Galectin-3 by Western Blot. Western blot shows lysates of MCF-7 human breast cancer cell line, U-118-MG human glioblastoma/astrocytoma cell line, C6 rat glioma cell line, and NR8383 rat alveolar macrophage cell line. PVDF membrane was probed with 0.5 µg/mL of Rat Anti-Mouse Galectin-3 Monoclonal Antibody (Catalog # MAB1197) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for Galectin-3 at approximately 28 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



Detection of Mouse Galectin-3 by Simple Western™. Simple Western lane view shows lysates of HT-2 mouse T cell line and Balb/3T3 mouse embryonic fibroblast cell line, loaded at 0.2 mg/mL. A specific band was detected for Galectin-3 at approximately 43 kDa (as indicated) using 10 µg/mL of Rat Anti-Mouse Galectin-3 Monoclonal Antibody (Catalog # MAB1197) followed by 1:50 dilution of HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

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Human/Mouse/Rat Galectin-3 Antibody

Monoclonal Rat IgG_{2A} Clone # 202213

Catalog Number: MAB1197

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The galectins constitute a large family of carbohydrate-binding proteins with specificity for N-acetyl-lactosamine-containing glycoproteins. At least 14 mammalian galectins, which share structural similarities in their carbohydrate recognition domains (CRD), have been identified. The galectins have been classified into the prototype galectins (-1, -2, -5, -7, -10, -11, -13, -14), which contain one CRD and exist either as a monomer or a noncovalent homodimer; the chimera galectins (Galectin-3) containing one CRD linked to a nonlectin domain; and the tandem-repeat galectins (-4, -6, -8, -9, -12) consisting of two CRDs joined by a linker peptide. Galectins lack a classical signal peptide and can be localized to the cytosolic compartments where they have intracellular functions. However, via one or more as yet unidentified non-classical secretory pathways, galectins can also be secreted to function extracellularly. Individual members of the galectin family have different tissue distribution profiles and exhibit subtle differences in their carbohydrate-binding specificities. Each family member may preferentially bind to a unique subset of cell-surface glycoproteins (1-4). Galectin-3, also known as Mac-2, L29, CBP35, and εBP, is a chimera galectin that has a tendency to dimerize. Besides the soluble protein, alternatively spliced forms of chicken Galectin-3 containing a transmembrane-spanning domain and a leucine zipper motif have been reported. Galectin-3 is expressed in tumor cells, macrophages, activated T cells, osteoclasts, epithelial cells, and fibroblasts. It binds various matrix glycoproteins including laminin, fibronectin, LAMPS, 90K/Mac-2BP, MP20, and CEA. Galectin-3 promotes cell growth and proliferation for many cell types. Galectin-3 acts intracellularly to prevent apoptosis. Depending on the cell types, Galectin-3 exhibits pro- or anti-adhesive properties. Galectin-3 has proinflammatory activities *in vitro* and *in vivo*. It induces pro-inflammatory and inhibits Th2 type cytokine production. Galectin-3 chemoattracts monocytes and macrophages. It activates and degranulates basophils and mast cells. Elevated circulating levels of Galectin-3 has been show to correlate with the malignant potential of several types of cancer, suggesting that Galectin-3 is also involved in tumor growth and metastasis. Human and mouse Galectin-3 shares approximately 80% amino acid sequence similarity (1-5).

References:

1. Rabinovich, A. *et al.* (2002) Trends in Immunol. **23**:313.
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3. Hughes, R.C. (2001) Biochimie **83**:667.
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5. Gorski, J.P. *et al.* (2002) J. Biol. Chem. **277**:18840.

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