Mouse Galectin-1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1245

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Galectin-1 in ELISAs and Western blots. In sandwich ELISAs, less than 5% cross-reactivity with recombinant human (rh) Galectin-1 and less than 0.5% cross-reactivity with recombinant mouse (rm) Galectin-3, rhGalectin-4, rmGalectin-7, and rhGalectin-8 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant mouse Galectin-1 Ala2-Glu135 Accession # P16045
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	0.1 µg/mL	THP-1 human acute monocytic leukemia cell line, L6 rat myoblast cell line, C2C12 mouse myoblast cell line, Neuro-2A mouse neuroblastoma cell line and Mouse Thymus
Immunohistochemistry	5-15 µg/mL	See Below
Intracellular Staining by Flow Cytometry	2.5 µg/10^6 cells	See Below
Simple Western	5 µg/mL	L6 rat myoblast cell line, C2C12 mouse myoblast cell line, THP-1 human acute monocytic leukemia cell line and Neuro-2A mouse neuroblastoma cell line
Mouse Galectin-1 Sandwich Immunoassay		**Reagent**
ELISA Capture	0.2-0.8 µg/mL	Mouse Galectin-1 Antibody (Catalog # AF1245)
ELISA Detection	0.1-0.4 µg/mL	Mouse Galectin-1 Biotinylated Antibody (Catalog # BAF1245)
Standard		Recombinant Mouse Galectin-1 (Catalog # 1245-GA)
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

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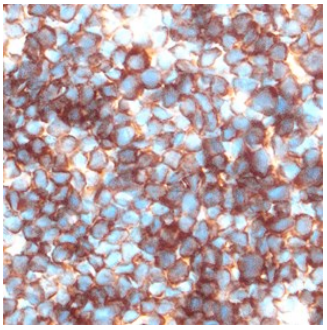
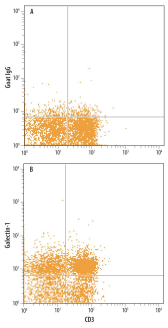
DATA

Immunohistochemistry



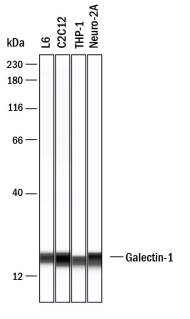
Galectin-1 in Mouse Thymus. Galectin-1 was detected in perfusion fixed frozen sections of mouse thymus using Goat Anti-Mouse Galectin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1245) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the cytoplasm of lymphocytes. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

Intracellular Staining by Flow Cytometry



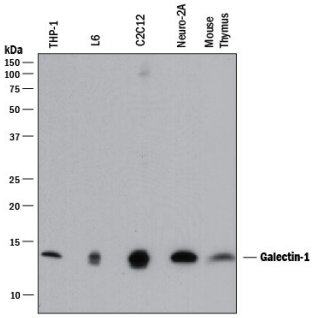
Detection of Galectin-1 in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes were stained with Rat Anti-Mouse CD3 APC-conjugated Monoclonal Antibody (Catalog # Catalog # FAB4841A) and either (A) Normal Goat IgG Control (Catalog # Catalog # AB-108-C) or (B) Goat Anti-Mouse Galectin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1245) followed by Phycoerythrin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # F0107). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

Simple Western



Detection of Mouse Galectin-1 by Simple Western™. Simple Western lane view shows lysates of L6 rat myoblast cell line, C2C12 mouse myoblast cell line, THP-1 human acute monocytic leukemia cell line and Neuro-2A mouse neuroblastoma cell line, loaded at 0.2 mg/mL. A specific band was detected for Galectin-1 at approximately 18 kDa (as indicated) using 5 µg/mL of Goat Anti-Mouse Galectin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1245). This experiment was conducted under reducing conditions and using the 12-230kDa separation system.

Western Blot



Detection of Mouse Galectin-1 by Western Blot. Western blot shows lysates of THP-1 human acute monocytic leukemia cell line, L6 rat myoblast cell line, C2C12 mouse myoblast cell line, Neuro-2A mouse neuroblastoma cell line and Mouse Thymus. PVDF membrane was probed with 0.1 µg/mL of Goat Anti-Mouse Galectin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1245) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Galectin-1 at approximately 14 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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.

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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 to date. 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).

Mouse Galectin-1, also known as beta-galactoside-binding lectin L-14-I, lactose-binding lectin 1, S-Lac lectin 1, galaptin and 14 kDa lectin, is a monomeric or homodimeric prototype galectin that is expressed in a variety of cells and tissues including muscle, heart, lymph nodes, spleen, thymus, macrophages, B cells, T cells, dendritic cells, and tumor cells. It preferentially binds laminin, fibronectin, 90K/Mac-2BP, CD45, CD43, CD7, CD2, CD3, and ganglioside GM1. Galectin-1 modulates cell growth, proliferation and differentiation, either positively or negatively, depending on the cell type and activation status. It controls cell survival by inducing apoptosis of activated T cells and immature thymocytes. It modulates cytokine secretion by inducing Th2 type cytokines and inhibiting pro-inflammatory cytokine production. Galectin-1 can also modulate cell-cell as well as cell-matrix interactions and depending on the cell type and developmental stage, promote cell attachment or detachment. Galectin-1 has immunosuppressive and anti-inflammatory properties and has been shown to suppress acute and chronic inflammation and autoimmunity. Mouse and human Galectin-1 share about 88% amino acid sequence similarity (1-5).

References:

1. Rabinovich, A. *et al*. (2002) Trends in Immunol. **23**:313.
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4. R&D Systems' Cytokine Bulletin, Summer (2002).
5. Goldring, K. *et al*. (2002) J. Cell Science **115**:355.

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