Human Galectin-1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1152

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Galectin-1 in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Galectin-1 Ala2-Asp135 Accession # P09382
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	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Intracellular Staining by Flow Cytometry	2.5 µg/10^6 cells	See Below
Simple Western	1-25 µg/mL	See Below
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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China | info.cn@bio-techne.com TEL: 400.821.3475

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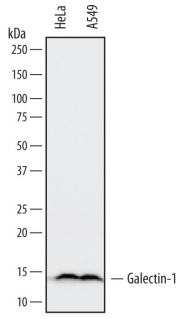
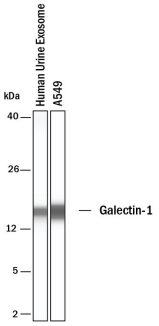
DATA

Western Blot



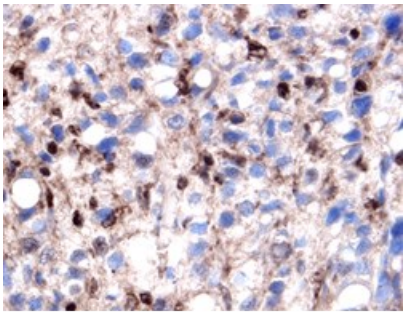
Detection of Human Galectin-1 by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line and A549 human lung carcinoma cell line. PVDF membrane was probed with 0.1 µg/mL of Goat Anti-Human Galectin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1152) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for Galectin-1 at approximately 14 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



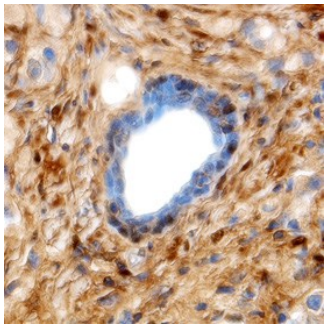
Detection of Human Galectin-1 by Simple Western™. Simple Western lane view shows lysates of Exosome Standards (Human Urine) (Catalog # NBP2-49840) and A549 human lung carcinoma cell line, loaded at 0.5 mg/ml. A specific band was detected for Galectin-1 at approximately 16 kDa (as indicated) using 25 µg/ml of Goat Anti-Human Galectin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1152) followed by HRP-conjugated Donkey Anti-Goat Secondary Antibody (Catalog # 042-206). This experiment was conducted under reducing conditions and using the 2-40kDa separation system.

Immunohistochemistry



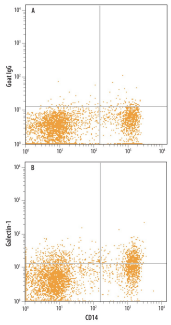
Galectin-1 in Human Prostate Cancer Tissue. Galectin-1 was detected in immersion fixed paraffin-embedded sections of human prostate cancer tissue using 1.7 µg/mL Goat Anti-Human Galectin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1152) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Immunohistochemistry



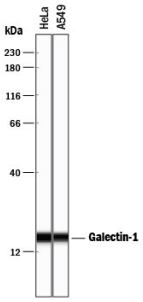
Galectin-1 in Human Prostate Cancer Tissue. Galectin-1 was detected in immersion fixed paraffin-embedded sections of human prostate cancer tissue using Goat Anti-Human Galectin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1152) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the cytoplasm of stromal cells and nuclei of epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Intracellular Staining by Flow Cytometry



Detection of Galectin-1 in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Mouse Anti-Human CD14 PE-conjugated Monoclonal Antibody (Catalog # FAB3832P) and either (A) Normal Goat IgG Control (Catalog # AB-108-C) or (B) Goat Anti-Human Galectin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1152) followed by Allophycocyanin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # F0108). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

Simple Western



Detection of Human Galectin-1 by Simple Western™. Simple Western lane view shows lysates of HeLa human cervical epithelial carcinoma cell line and A549 human lung carcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for Galectin-1 at approximately 17 kDa (as indicated) using 1 µg/mL of Goat Anti-Human Galectin-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1152) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
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 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.

Galectin-1, also known as L-14, BHL and galaptin, is a monomeric or homodimeric prototype galectin that is expressed in a variety of cells and tissues including muscle, heart, liver, prostate, lymph nodes, spleen, thymus, placenta, testis, retina, 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 and proliferation, 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. Human and mouse galectin-1 share about 88% amino acid sequence similarity.

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