

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Galectin-3 in direct ELISAs and Western blots. In direct ELISAs, less than 20% cross-reactivity with recombinant mouse Galectin-3 is observed and less than 1% cross-reactivity with recombinant human Galectin-8 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Galectin-3 Ala2-Ile250 Accession # P17931.5
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.

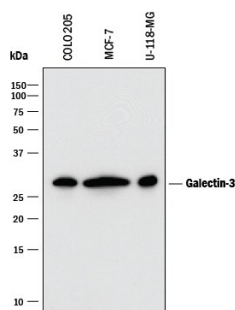
APPLICATIONS

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	Human PBMCs fixed with paraformaldehyde and permeabilized with saponin
Simple Western	10 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.	

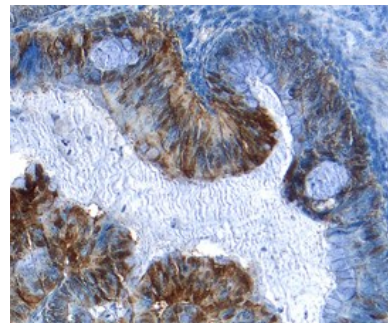
DATA

Western Blot



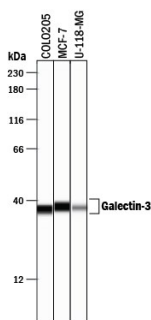
Detection of Human Galectin-3 by Western Blot. Western blot shows lysates of COLO 205 human colorectal adenocarcinoma cell line, MCF-7 human breast cancer cell line, and U-118-MG human glioblastoma/astrocytoma cell line. PVDF membrane was probed with 0.1 µg/mL of Goat Anti-Human Galectin-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1154) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). 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.

Immunohistochemistry



Galectin-3 in Human Colon. Galectin-3 was detected in formalin fixed paraffin-embedded sections of human colon using Goat Anti-Human Galectin-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1154) at 1.7 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). View our protocol for [Chromogenic IHC Staining of immersion fixed paraffin-embedded Tissue Sections](#).

Simple Western



Detection of Human Galectin-3 by Simple Western™. Simple Western lane view shows lysates of COLO 205 human colorectal adenocarcinoma cell line, MCF-7 human breast cancer cell line, and U-118-MG human glioblastoma/astrocytoma cell line, loaded at 0.2 mg/mL. A specific band was detected for Galectin-3 at approximately 37-38 kDa (as indicated) using 10 µg/mL of Goat Anti-Human Galectin-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1154) 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.



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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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.
2. Rabinovich, A. *et al.* (2002) J. Leukocyte Biology **71**:741.
3. Hughes, R.C. (2001) Biochimie **83**:667.
4. R&D Systems Cytokine Bulletin; Summer 2002.
5. Gorski, J.P. *et al.* (2002) J. Biol. Chem. **277**:18840.