

## DESCRIPTION

<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human, mouse, and rat Galectin-3 in Western blots. Detects mouse Galectin-3 in direct ELISAs. In direct ELISAs, approximately 20% cross-reactivity with recombinant human (rh) Galectin-3 is observed and less than 1% cross-reactivity with recombinant mouse (rm) Galectin-4 and rmGalectin-9 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant mouse Galectin-3 Ala2-Ile264 Accession # NP_034835
<b>Formulation</b>	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
<b>Western Blot</b>	0.05-0.2 µg/mL	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>Simple Western</b>	10 µg/mL	See Below

## 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 0.05 µg/mL of Goat Anti-Mouse Galectin-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1197) 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.

**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 0.2 µg/mL of Goat Anti-Mouse Galectin-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1197) 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 Mouse Embryo.** Galectin-3 was detected in immersion fixed frozen sections of mouse embryo (15 d.p.c., cross-section through the eye) using Goat Anti-Human Galectin-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1197) at 15 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 Frozen Tissue Sections.

**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 44 kDa (as indicated) using 10 µg/mL of Goat Anti-Mouse Galectin-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1197) 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

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**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.