

DESCRIPTION

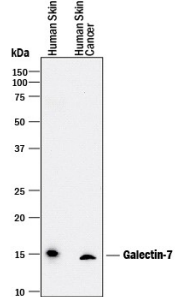
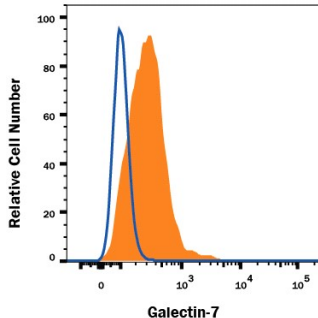
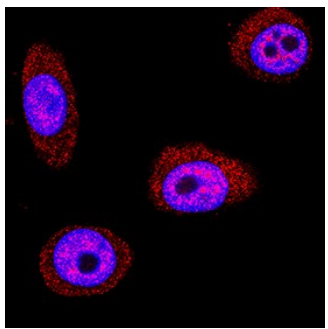
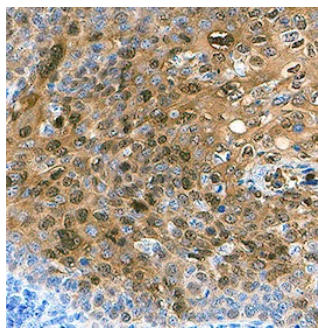
Species Reactivity	Human
Specificity	Detects human Galectin-7 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 950723
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Galectin-7 Ser2-Phe136 Accession # NP_002298
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	2 µg/mL	See Below
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
Immunocytochemistry	5-25 µg/mL	See Below
Immunohistochemistry	5-25 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.	

DATA

<p>Western Blot</p>  <p>Detection of Human Galectin-7 by Western Blot. Western blot shows lysates of human skin tissue and human skin cancer tissue. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human Galectin-7 Monoclonal Antibody (Catalog # MAB13392) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Galectin-7 at approximately 14 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Flow Cytometry</p>  <p>Detection of Galectin-7 in A431 Human Cell Line by Flow Cytometry. A431 human epithelial carcinoma cell line was stained with Mouse Anti-Human Galectin-7 Monoclonal Antibody (Catalog # MAB13392, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005). View our protocol for Staining Intracellular Molecules.</p>
<p>Immunocytochemistry</p>  <p>Galectin-7 in HEK001 Human Cell Line. Galectin-7 was detected in immersion fixed HEK001 human epidermal keratinocyte cell line using Mouse Anti-Human Galectin-7 Monoclonal Antibody (Catalog # MAB13392) at 5 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm and nuclei. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>	<p>Immunohistochemistry</p>  <p>Galectin-7 in Human Cervical Cancer Tissue. Galectin-7 was detected in immersion fixed paraffin-embedded sections of human cervical cancer tissue using Mouse Anti-Human Galectin-7 Monoclonal Antibody (Catalog # MAB13392) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm and nuclei. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.</p>

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. <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). Human Galectin-7 is a prototype monomeric galectin. It is specifically expressed in stratified epithelia, notably in epidermis, but is barely detectable in epidermal tumors and significantly down regulated or absent from squamous carcinoma cell lines. The Galectin-7 gene is induced by tumor suppressor protein p53 transcriptional activity following genotoxic events. A pro-apoptotic protein, Galectin-7 functions intracellularly upstream of JNK activation and cytochrome-c release. This protein has been shown to increase the susceptibility of keratinocytes to UVB induced apoptosis, an essential process in the maintenance of epidermal homeostasis. Cell lines transfected with the Galectin-7 gene localized the protein in the nucleus and intracellularly. Human and mouse Galectin-7 share 79% amino acid homology (4-6).

References:

1. Rabinovich, A. *et al.* (2002) *TRENDS in Immunol.* **23**:313.
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3. Hughes, R.C. (2002) *Biochimie* **83**:667.
4. R&D Systems Cytokine Bulletin; Summer 2002.
5. Bernerd, F. *et al.* (1999) *Proc. Natl. Acad. Sci. USA* **96**:11329.
6. Kuwabara, I. *et al.* (2002) *J. Biol. Chem.* **277**:3487.