

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Galectin-9 in direct ELISAs.
Source	Monoclonal Mouse IgG _{2A} Clone # 1005438
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived human Galectin-9 Ala2-Thr323 Accession # O00182
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Human PBMC treated with PHA

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Galectins comprise a family of multifunctional carbohydrate-binding proteins with specificity for N-acetyl-lactosamine-containing glycoproteins. At least 14 mammalian Galectins share structural similarities in their carbohydrate recognition domains (CRD), forming three groups: prototype (one CRD), tandem-repeat (two CRDs), and chimeric (one CRD, unique N-terminus) (1, 2). Full length Galectin-9 is a widely expressed 39 kDa tandem-repeat Galectin that contains two CRDs connected by a linker region (3). Progressive deletion within the linker region generates a 36 kDa isoform, also known as Ecalectin or UAT, as well as a 35 kDa isoform (4). This recombinant protein corresponds to the Ecalectin isoform of human Galectin-9 and shares 70% and 73% aa sequence identity with the corresponding regions of mouse and rat Galectin-9, respectively. Galectin-9 exhibits a wide range of activities. All three isoforms function as eosinophil chemoattractants (5, 6). This activity is destroyed by thrombin-mediated cleavage within the linker region of the long isoform, although the Ecalectin isoform is resistant to thrombin (7). Galectin-9 binds to carbohydrate moieties of IgE, thereby preventing immune complex formation, mast cell degranulation, and asthmatic and cutaneous anaphylaxis reactions (8). Independent of its lectin properties, Galectin-9 induces the maturation of dendritic cells which promote Th1 polarization (9). Galectin-9 induces cellular apoptosis in part by direct binding to TIM-3 (10, 11). Its interaction with TIM-3 inhibits Th1 cell and CD8⁺ cytotoxic T cell responses and also promotes regulatory T cell differentiation and activity (11, 12). Galectin-9 suppresses tumor cell metastasis by interfering with the associations between hyaluronic acid and CD44 and between VCAM-1 and Integrin α4β1 (13). The Ecalectin isoform (UAT; urate transporter) can also be expressed as an integral membrane protein and mediate the cellular efflux of urate (14).

References:

1. Yang, R-Y. *et al.* (2008) *Expert Rev. Mol. Med.* **10**:e17.
2. Elola, M. T. *et al.* (2007) *Cell. Mol. Life Sci.* **64**:1679.
3. Tureci, O. *et al.* (1997) *J. Biol. Chem.* **272**:6416.
4. Chabot, S. *et al.* (2002) *Glycobiology* **12**:111.
5. Matsumoto, R. *et al.* (2002) *J. Immunol.* **168**:1961.
6. Sato, M. *et al.* (2002) *Glycobiology* **12**:191.
7. Nishi, N. *et al.* (2006) *Glycobiology* **16**:15C.
8. Niki, T. *et al.* (2009) *J. Biol. Chem.* **284**:32344.
9. Dai, S.-Y. *et al.* (2005) *J. Immunol.* **175**:2974.
10. Seki, M. *et al.* (2007) *Arthritis Rheum.* **56**:3968.
11. Zhu, C. *et al.* (2005) *Nat. Immunol.* **6**:1245.
12. Sehrawat, S. *et al.* (2010) *PLoS Pathogens* **6**:e1000882.
13. Nobumoto, A. *et al.* (2008) *Glycobiology* **18**:735.
14. Leal-Pinto, E. *et al.* (2002) *Am. J. Physiol. Renal Physiol.* **283**:F150.

Human Galectin-9 Alexa Fluor® 700-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 1005438

Catalog Number: FAB20455N

100 µg

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