Human Galectin-9 Alexa Fluor® 594-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2315B
Catalog Number: FAB9064T
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects Human Galectin-9 in direct ELISA.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2315B
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell, HEK293 derived human Galectin-9 Met1-Thr323 Accession # O00182
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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.*

Intracellular Staining by Flow Cytometry	Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was HEK293 cell line transfected with Galectin-9 vs irrelevant HEK293 transfectant cells.

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.** • 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. Heusschen, R. *et al.* (2013) Biochim. Biophys. Acta **1836**:177.
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.

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