

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Galectin-9 in direct ELISAs.
Source	Monoclonal Mouse IgG _{2B} Clone # 1005401
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 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% 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.

Immunohistochemistry Optimal dilution of this antibody should be experimentally determined.

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).

PRODUCT SPECIFIC NOTICES

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