

Recombinant Human Galectin-9 (carrier-free)

Catalog# / Size	557302 / 10 µg 557304 / 25 µg 557306 / 100 µg
Regulatory Status	RUO
Other Names	HUAT, Lectin, galactoside-binding, soluble, 9 (LGALS9), LGALS9A
Description	Galectin-9 is a member of the lectin family, which includes 15 mammalian lectin members. Like all galectins, Galectin-9 contains a carbohydrate recognition binding domain that enables specific binding of β-galactosides. Most galectins are either bivalent or multivalent in regards to their carbohydrate binding capacity, which enables the recognition of distinct signalling pathways. Galectin-9 may be retained intracellularly or transported to the cell surface where it can be cleaved to generate a soluble form. Galectin-9 functions in effector and regulatory phases of the immune response. During inflammation, the production of Galectin-9 <i>in vivo</i> generates a microenvironment that limits effector T cell responses. Galectin-9 can negatively regulate the Th1 immune response by engaging TIM-3 on T cells, which leads to induction of intracellular Ca ²⁺ influx and activation of apoptosis pathways. In addition, Galectin-9 has been shown to function as a urate transporter in the kidney. Galectin-9 has been identified as a possible prognostic marker in breast cancer, melanoma, and oral squamous cell carcinomas.

Product Details

Source	Human Galectin-9, amino acids (Ala2-Thr323) (Accession# NP_002299), was expressed in 293E cells with a N-terminal His tag.
Molecular Mass	The 343 amino acid recombinant protein with an N-terminal His tag has a predicted molecular mass of approximately 37.9 kD. The DTT-reduced and non-reduced protein migrate approximately above 60 kD by SDS-PAGE. The predicted N-terminal amino acid is His.
Purity	>95%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 20 mM MOPS, 300 mM NaCl, 1 mM EDTA, and in 2 mM DTT.
Endotoxin Level	Less than 1.0 EU per µg of protein as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration and expiration, please enter the lot number in our Certificate of Analysis online tool.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	Recombinant human Galectin-9 is able to agglutinate human red blood cells with an ED ₅₀ of 0.5 - 2.0 µg/mL. Immobilized recombinant human Galectin-9 supports the adhesion of Jurkat human acute T cell leukemia cells in a dose-dependent manner. ED ₅₀ for this effect is 15 - 75 ng/mL.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .

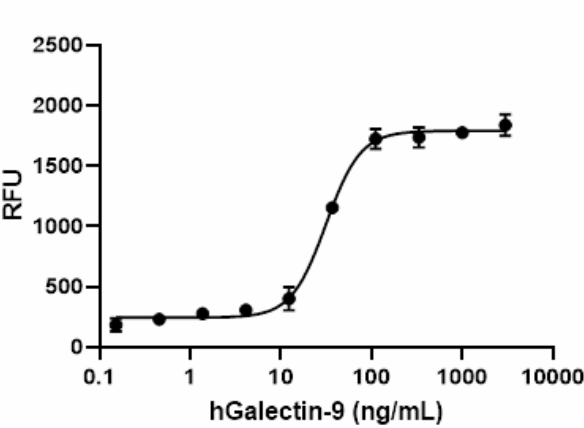
Antigen Details

Structure	Homodimer.
Distribution	Galectin-9 is expressed by lymphocytes, dendritic cells, neutrophils, eosinophils, astrocytes, endothelial cells, fibroblasts, thymus stromal cells, and epithelial cells.
Function	Cell aggregation, adhesion, chemotaxis, apoptosis, suppression of Th1 and Th17 responses, and induction of regulatory T cells. IFN-γ induces galectin-9 expression in fibroblasts, endothelial, and Kupffer cells. IL-1β and IL-5 induces it in astrocytes and eosinophils, respectively.
Interaction	Extracellular matrix

Ligand/Receptor	Galectin-9 binds to glycans featuring galactose and its derivatives, CD444, TIM-3
Bioactivity	Human Galectin-9 is able to agglutinate human red blood cells.
Biology Area	Apoptosis/Tumor Suppressors/Cell Death, Cell Adhesion, Cell Biology, Cell Motility/Cytoskeleton/Structure, Immunology, Stem Cells
Molecular Family	Adhesion Molecules, Immune Checkpoint Receptors
Antigen References	<ol style="list-style-type: none"> 1. Toscano MA, <i>et al.</i> 2009. <i>Nat. Immunol. Rev.</i> 9:338. 2. Hadari YR, <i>et al.</i> 2000. <i>J. Cell Sci.</i> 113:2385. 3. Tsuboi Y, <i>et al.</i> 2007. <i>Clin. Immunol.</i> 124:221. 4. Zhu C, <i>et al.</i> 2005. <i>Nat. Immunol.</i> 6:1245. 5. Wu C, <i>et al.</i> 2014. <i>Immunity</i> 41:270. 6. Graessler J, <i>et al.</i> 2000. <i>Adv. Exp. Med. Biol.</i> 486:179. 7. Bacigalupo ML, <i>et al.</i> 2013. <i>World J. Gastroenterol.</i> 47:8831.

Gene ID
3965

Product Data



Immobilized recombinant human Galectin-9 supports the adhesion of Jurkat human acute T cell leukemia cells in a dose-dependent manner. ED₅₀ for this effect is 15 - 75 ng/mL.

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