

Recombinant Rat LEG9 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52646

Size: 10ug, 100ug

Protein Name: Galectin-9 (Gal-9) (36 kDa beta-galactoside-binding lectin) (Urate transporter/channel) (UAT)

Synonym: Lgals9

UniProt ID: P97840

UniProt Link: www.uniprot.org/uniprotkb/P97840/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 354 AA

Molecular Weight: 40 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAFFSTQPPYMNPVIPFTGIIQGGLQNGQLQITLQGTVHPFPNRIAVNFQTGFSGNDIAFHFNPRFEEG
GYVVCNTKQNGKWGPEERKMMPFQKGMPELCLVQRSEFKVMVNKNFFVQYSHRVPYHLVDTI
SVSGCLHLSFINFQNSTAAPVQPVFSTMQFSQPQVQFPRMPKGRKQRTQGFQPALQAPVAQTIIHTVH
SIPGQMLSTPGIPPMAYPTPAYTIPFFTSIPNGFYPSKINISGVVLPDAKRFBHINLRCGGDIAFHLNPR
FNEKVVVRNTQINNSWGPEERSLPGRMPFNRGQSFSVWILCEGHCFKVAVDGQHICEYYHRLKNLP
DINTLEVAGDIQLTHVQT

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Galectin-9 (Gal-9) (36 kDa beta-galactoside-binding lectin) (Urate transporter/channel) (UAT) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Binds galactosides (By similarity). Has high affinity for the Forssman pentasaccharide (By similarity). Ligand for HAVCR2/TIM3 (By similarity). Binding to HAVCR2 induces T-helper type 1 lymphocyte (Th1) death (By similarity). Also stimulates bactericidal activity in infected macrophages by causing macrophage activation and IL1B secretion which restricts intracellular bacterial growth (By similarity). Ligand for P4HB; the interaction retains P4HB at the cell surface of Th2 T helper cells, increasing disulfide reductase activity at the plasma membrane, altering the plasma membrane redox state and enhancing cell migration (By similarity). Ligand for CD44; the interaction enhances binding of SMAD3 to the FOXP3 promoter, leading to up-regulation of FOXP3 expression and increased induced regulatory T (iTreg) cell stability and suppressive function (By similarity). Promotes ability of mesenchymal stromal cells to suppress T-cell proliferation (By similarity). Expands regulatory T-cells and induces cytotoxic T-cell apoptosis following virus infection (By similarity). Activates ERK1/2 phosphorylation inducing cytokine (IL-6, IL-8, IL-12) and chemokine (CCL2) production in mast and dendritic cells (By similarity). Inhibits degranulation and induces apoptosis of mast cells (By similarity). Induces maturation and migration of dendritic cells (By similarity). Inhibits natural killer (NK) cell function (By similarity). Can transform NK cell phenotype from peripheral to decidual during pregnancy (By similarity). Astrocyte derived galectin-9 enhances microglial TNF production (PubMed:25158758). May play a role in thymocyte-epithelial interactions relevant to the biology of the thymus. May provide the molecular basis for urate flux across cell membranes, allowing urate that is formed during purine metabolism to efflux from cells and serving as an electrogenic transporter that plays an important role in renal and gastrointestinal urate excretion (PubMed:8995305). Highly selective to the anion urate (PubMed:8995305).

Subcellular Localization: Cytoplasm . Nucleus . Secreted . Note=May also be secreted by a non-classical secretory pathway. Secreted by mesenchymal stromal cells upon IFNG stimulation.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.