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Galectin-1, human recombinant (rHuGAL-1)

Catalog No: 97060
Lot No: XXXXX
Source: *E. coli*
Synonyms: Galectin-1, GAL1, GAL-1, Lectin galactoside-binding soluble 1, Beta-galactoside-binding lectin L-14-I, Lactose-binding lectin 1, S-Lac lectin 1, Galaptin, 14 kDa lectin, HPL, HBL, Putative MAPK-activating protein PM12, GBP, DKFZp686E23103

Background

The galectins are a family of beta-galactoside-binding proteins implicated in modulating cell-cell and cell-matrix interactions. Galectin-1 is an autocrine negative growth factor that regulates cell proliferation. Galectin-1 regulates cell apoptosis and cell differentiation. Galectin-1 binds CD45, CD3 and CD4 & inhibits CD45 protein phosphatase activity and therefore the dephosphorylation of lyn kinase. Galectin-1 and its ligands are one of the master regulators of immune responses as T-cell homeostasis and survival, T-cell immune disorders, inflammation and allergies as well as host-pathogen interactions. Galectin-1 expression or overexpression in tumors and/or the tissue surrounding them must be considered as a sign of the malignant tumor progression that is often related to the long-range dissemination of tumoral cells (metastasis), to their dissemination into the surrounding normal tissue, and to tumor immune-escape. Galectin-1 in its oxidized form plays a number of important roles in the regeneration of the central nervous system after injury. The targeted overexpression (or delivery) of Galectin-1 should be considered as a method of choice for the treatment of some kinds of inflammation-related diseases, neurodegenerative pathologies and muscular dystrophies. In contrast, the targeted inhibition of Galectin-1 expression is what should be developed for therapeutic applications against cancer progression. Galectin-1 is thus a promising molecular target for the development of new and original therapeutic tools. There is 88% homology between the human and mouse galectin-1.

Description

LGALS1 human recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 134 amino acids and having a molecular mass of 14.5 kDa. LGALS1 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

The Galectin-1 protein was lyophilized from a concentrated (1 mg/ml) containing 10 mM Na₂PO₄, pH 7.5.

Solubility

It is recommended to reconstitute the lyophilized LGALS1 in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized Galectin-1, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Galectin-1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 95.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.



Amino Acid Sequence

ACGLVASNLN LKPGECLRVR GEVAPDAKSF VLNLGKDSNN LCLHFNPRFN AHGDANTIVC NSKDGGAWGT EQREAVFPFQ
PGSVAEVCIT FDQANLTVKL PDGYEFKFPN RLNLEAINYM AADGDFKIKC VAFD

Activity

Human Galectin-1 is a chemoattractant for human blood monocytes. ED50 range is from 0.05 – 3.0 µg/ml.

Usage

This product is offered by Biomol for research purposes only. Not for diagnostic purposes or human use. It may not be resold or used to manufacture commercial products without written approval of Biomol GmbH.