



Product Datasheet

Product Name	Recombinant Human Galectin-1, LGALS1
Cata No	CB501278
Source	Escherichia 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.

Description

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.

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. The LGALS1 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Purity

Greater than 95.0% as determined by

(a) Analysis by RP-HPLC.

(b) Analysis by SDS-PAGE.

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California Bioscience

83103 Avenue 48, Ste.1B #204
Coachella, CA 92236 USA
Phone : +1.6268339877
Email : info@cali-bio.com

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Formulation

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

Reconstitution

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

Stability

Lyophilized Galectin-1 Recombinant 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.

Biological Activity

Human Galectin-1 is a chemoattractant for human blood monocytes. ED₅₀ range is from 0.05–3.0 µg/ml corresponding to a specific activity of 0.3-20MIU/mg.

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