

Galectin-1 Human E. coli

Product Data Sheet

Type: Recombinant	Cat. No.:	
Source: E. coli	RBG10154010	(10 µg)
Species: Human	RBG10154050	(50 µg)
Other names: Beta-galactoside-binding lectin L-14-I, Galaptin, 14 kDa lectin, S-LAC lectin-1	RBG10154100	(100 µg)

Description

Lectins, of either plant or animal origin, are carbohydrate-binding proteins that interact with glycoprotein and glycolipids on the surface of animal cells. The Galectins are lectins that recognize and interact with beta-galactoside moieties. Galectin-1 is an animal lectin that has been shown to interact with CD3, CD4, and CD45. It induces apoptosis of activated T-cells and T-leukemia cell lines, and inhibits the protein phosphatase activity of CD45. Recombinant Human Galectin-1 is a 14.5 kDa protein containing 134 amino acid residues.

Introduction to the Molecule

Galectins are proteins of 30 kDa that can be found in the cellular nucleus, the cytosol and also in the extracellular space. They are members of the lectin family, a group of beta-galactoside binding proteins. Galectin-1 [GAL-1] is a prototypical member of the galectin family of lectins. It is a divalent 14.5-kDa protein characterized by one carbohydrate recognition domain (CRD) that can occur as a monomer or as a non-covalent homodimer consisting of subunits of one CRD. GAL-1 is produced by a variety of vascular, interstitial, epithelial, and immune cells. GAL-1 is present both inside and outside cells, and has both intracellular and extracellular functions. The extracellular functions require the carbohydrate-binding properties while the intracellular ones are associated with protein-protein interactions. Galectin-1, a member of carbohydrate-binding proteins with an affinity for beta-galactoside, was found strongly expressed in the isolated activated PSCs. Galectin-1 is widely distributed in many normal and pathological tissues and appears to be functionally polyvalent, such as regulating cell proliferation, differentiation and apoptosis, mediating tumor transformation, growth and so on. It is widely reported that Galectin-1 is overexpressed in many different types of digestive system tumors, including gastric cancer, colorectal cancer and hepatocellular carcinoma.

Research topic

Apoptosis, Immune Response, Infection and Inflammation, Oncology

Amino Acid Sequence

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

Source

E. coli

Purity

98%

Biological Activity

Determined by its ability to chemoattract human blood monocytes. Chemotactic activity was observed at a concentration of 2.5 µg/ml with a peak response obtained at 250 µg/ml.

Endotoxin

Endotoxin level is <0.1 ng/µg of protein (<1EU/µg).

Reconstitution

Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.

Storage, Stability/Shelf Life

-20°C

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