

Human Galectin-1 / LGALS1 Protein

Catalog Number: 10290-HNAE



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

GAL1; Galectin-1; GBP

Protein Construction:

A DNA sequence encoding the human Galectin 1 (NP_002296.1) (Met 1-Asp135) was expressed.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 98 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to agglutinate human red blood cells. The ED_{50} for this effect is typically 3-30 μ g/mL.

Endotoxin:

Please contact us for more information.

Predicted N terminal: Ala 2

Molecular Mass:

The recombinant human Galectin 1 comprises 134 amino acids without the initiator methionine, and predicts a molecular mass of 15 kDa as estimated in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

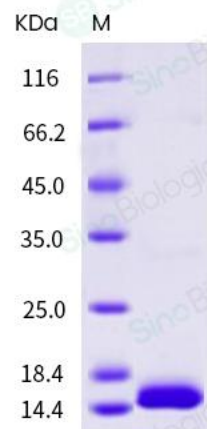
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Galectin-1 (Gal-1, GAL1), is a member of the galectins, a family of animal lectins ranging from *Caenorhabditis elegans* to humans, which is defined by their affinity for beta-galactosides and by significant sequence similarity in the carbohydrate-binding site. It is a homodimer with a subunit molecular mass of 14.5 kDa, which contains six cysteine residues per subunit. The cysteine residues should be in a free state in order to maintain a molecular structure that is capable of showing lectin activity. This endogenous lectin widely expressed at sites of inflammation and tumour growth, has been postulated as an attractive immunosuppressive agent to restore immune cell tolerance and homeostasis in autoimmune and inflammatory settings. On the other hand, galectin-1 contributes to different steps of tumour progression including cell adhesion, migration and tumour-immune escape, suggesting that blockade of galectin-1 might result in therapeutic benefits in cancer. Several potential glycoprotein ligands for galectin-1 have been identified, including lysosome-associated membrane glycoproteins and fibronectin, laminin, as well as T-cell glycoproteins CD43 and CD45. Evidence points to Gal-1 and its ligands as one of the master regulators of such immune responses as T-cell homeostasis and survival, T-cell immune disorders, inflammation and allergies as well as host-pathogen interactions.

References

1. Gaudet AD, et al. (2005) Expression and functions of galectin-1 in sensory and motoneurons. *Curr Drug Targets*. 6(4): 419-25.
2. Kadoya T, et al. (2006) Structural and functional studies of galectin-1: a novel axonal regeneration-promoting activity for oxidized galectin-1. *Curr Drug Targets*. 6(4): 375-83.
3. Camby I, et al. (2006) Galectin-1: a small protein with major functions. *Glycobiology*. 16(11): 137R-157R.