

## Recombinant Human Galectin-1 (rh GAL-1)

**Synonyms:** Beta-galactoside-binding lectin L-14-I, Galaptin, 14 kDa lectin, HPL, HBL, PM2, S-LAC lectin-1

**Introduction:** 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 galectin1.

**Description:** Recombinant human Galectin-1 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 Galectin-1 is purified by proprietary chromatographic techniques.

**Source:** *Escherichia Coli*

**Physical Appearance:** Sterile filtered white lyophilized (freeze-dried) powder.

**Formulation:** The Galectin-1 protein was lyophilized from a 0.2µm filtered concentrated solution in PBS, pH7.4.

**Solubility:** It is recommended to reconstitute the lyophilized rh GAL-1 in sterile H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rh GAL-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 SDS-PAGE

**Amino Acid Sequence:** MACGLVASNL NLKPGECLRV RGEVAPDAKS FVLNLGKDSN NLCLHFNPRF  
NAHGDANTIV CNSKDGGAWG TEQREAVFPF QPGSVAEVCITFDQANLTVK LPDGYEFKFP NRLNLEAINY  
MAADGDFKIK CVAFD

**Biological Activity:** testing in progress

**Endotoxicity:** The endotoxin level is less than 1 EU / µg determined by LAL method.

This material is offered for **research use only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

<i>small</i>	10 µg	Cat.N°	11344923
<i>medium</i>	50 µg	Cat.N°	11344925
<i>large</i>	250 µg	Cat.N°	11344927
<i>x-large</i>	1000 µg	Cat.N°	11344928

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