

**DESCRIPTION**

**Source** *E. coli*-derived human Galectin-3 protein  
Ala2-Ile250  
Accession # Q6IBA7

**N-terminal Sequence Analysis** Ala2

**Predicted Molecular Mass** 26 kDa

**SPECIFICATIONS**

**Activity** Measured by its ability to agglutinate human red blood cells. Hadari, Y.R. *et al.* (2000) J. Cell Sci. **113**:2385. The ED<sub>50</sub> for this effect is 3-10 µg/mL.

**Endotoxin Level** <0.01 EU per 1 µg of the protein by the LAL method.

**Purity** >90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS and Betamercaptoethanol with BSA as a carrier protein. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

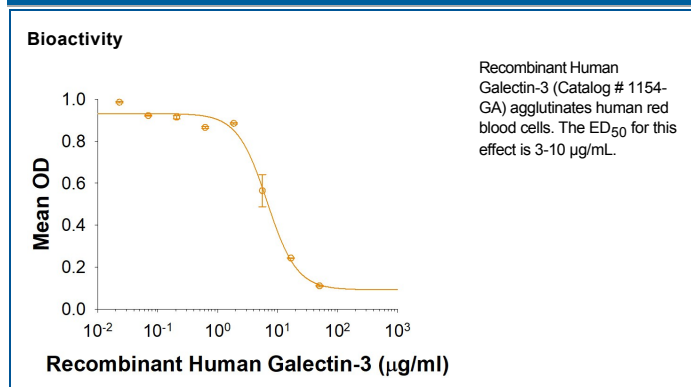
**Reconstitution** Reconstitute at 50 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 3 months, 2 to 8 °C under sterile conditions after reconstitution.

**DATA**



**BACKGROUND**

Human Galectin-3, also known as Mac-2, L29, CBP35, and εBP, is classified as a chimeric member of the Galectin superfamily and contains one carbohydrate recognition domain (CRD) linked to a nonlectin domain (1, 2). Mature human Galectin-3 shares 78% and 79% amino acid (aa) sequence identity with mouse and rat Galectin-3, respectively. Human Galectin-3 is a 26 kDa protein that can be nuclear, cytoplasmic, or secreted (3, 4). Nuclear Galectin-3 can modulate gene expression, while cytosolic Galectin-3 can inhibit apoptosis and can participate in exocytosis, Caveolin-mediated endocytosis, and macrophage-mediated clearance of apoptotic cells (5-7). Extracellular Galectin-3 has been shown to form high-order oligomers that promote the crosslinking of cell surface oligosaccharides as well as integrin-dependent cell adhesion and apoptosis (8-11). Galectin-3 contributes to the innate immune response against *Candida albicans* and *Streptococcus pneumoniae*, and it can facilitate acute inflammatory responses via neutrophil activation and opsonization, macrophage recruitment, and mast cell activation (12-14). Galectin-3 can also contribute to chronic inflammation and fibrosis (15). It is implicated in neuroinflammatory disorders of the central nervous system, cardiac fibrosis, and heart failure, as well as tumor growth, progression, and metastasis (16-18).

**References:**

1. Robertson, M.W. *et al.* (1990) *Biochemistry* **29**:8093.
2. Elola, M.T. *et al.* (2007) *Cell. Mol. Life Sci.* **64**:1679.
3. Haudek, K.C. *et al.* (2010) *Biochim. Biophys. Acta* **1800**:181.
4. Hughes, R.C. (1999) *Biochim. Biophys. Acta* **1473**:172.
5. Krzeslak, A. and A. Lipinska (2004) *Cell. Mol. Biol. Lett.* **9**:305.
6. Dumic, J. *et al.* (2006) *Biochim. Biophys. Acta* **1760**:616.
7. Sano, H. *et al.* (2003) *J. Clin. Invest.* **112**:389.
8. Ahmad, N. *et al.* (2004) *J. Biol. Chem.* **279**:10841.
9. Friedrichs, J. *et al.* (2008) *J. Biol. Chem.* **283**:32264.
10. Wen, Y. *et al.* (2006) *J. Cell. Biochem.* **98**:115.
11. Zhuo, Y. *et al.* (2008) *J. Biol. Chem.* **283**:22177.
12. Henderson, N.C. and T. Sethi (2009) *Immunol. Rev.* **230**:160.
13. Kohatsu, L. *et al.* (2006) *J. Immunol.* **177**:4718.
14. Nieminen, J. *et al.* (2008) *J. Immunol.* **180**:2466.
15. Henderson, N.C. *et al.* (2008) *Am. J. Pathol.* **172**:288.
16. Newlaczyl, A.U. and L.G. Yu (2011) *Cancer Lett.* **313**:123.
17. Sherwi, N. *et al.* (2012) *Future Cardiol.* **8**:885.
18. Shin, T. (2013) *Acta Histochem.* **115**:407.