Data Sheet (Cat.No.TMPY-04109)

TargetMol

Galectin-7 Protein, Human, Recombinant (His)

General Information

Synonyms:	lectin, galactoside-binding, soluble, 7;LGALS7A;GAL7
Protein Construction:	A DNA sequence encoding the human LGALS7 (NP_002298.1) (Ser2-Phe136) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	E. coli
Accession:	P47929
Molecular Weight:	17.2 kDa (predicted); 18 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to agglutinate human red blood cells. The ED50 for this effect is typically 0.2-2 μg/mL.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

LGALS7, also known as Galectin-7, is a member of the galectins family. The galectins are a family of beta-galactoside-binding proteins. There are at least 14 identified members of this family. Galectins share similarities in the CRD (the carbohydrate recognition domain). They are synthesized as cytosolic proteins. Though localized principally in the cytoplasm and lacking a classical signal peptide, galectins can also be stimulated to secretion by non-classical pathways or targeted to the nucleus. Galectins are implicated in modulating cell-cell and cell-matrix

interactions. LGALS7 contains 1 galectin domain and is mainly expressed in stratified squamous epithelium. Galectin-7 could be involved in cell-cell and/or cell-matrix interactions necessary for normal growth control. LGALS7 is a pro-apoptotic protein that functions intracellularly upstream of JNK activation and cytochrome c release.

Reference

Villeneuve C,et al.(2011) Mitochondrial proteomic approach reveals galectin-7 as a novel BCL-2 binding protein in human cells. Mol Biol Cell. 22(7):999-1013.
Rondanino C,et al.(2011) Galectin-7 modulates the length of the primary cilia and wound repair in polarized kidney epithelial cells. Am J Physiol Renal Physiol. 301(3):F622-33.
Masuyer G,et al.(2012) Inhibition mechanism of human galectin-7 by a novel galactose-benzylphosphate inhibitor. FEBS J. 279(2):193-202.
Magnaldo T,et al.(1995) Galectin-7, a human 14-kDa S-lectin, specifically expressed in keratinocytes and sensitive to retinoic acid. Dev Biol. 168(2):259-71.
Madsen P,et al.(1995) Cloning, expression, and chromosome mapping of human galectin-7. J Biol Chem. 270(11): 5823-29.