Recombinant Human Galectin-2

Catalog Number: 9874-GA

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human Galectin-2 protein Met1-Glu132 Accession # P05162
N-terminal Sequence Analysis	Thr2
Predicted Molecular Mass	15 kDa

SPECIFICATIONS

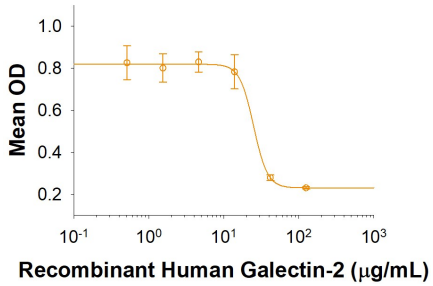
SDS-PAGE	12-15 kDa, reducing conditions
Activity	Measured by its ability to agglutinate human red blood cells. Hadari, Y.R. *et al.* (2000) J. Cell Sci. **113**:2385. The ED_{50} for this effect is 5-25 µg/mL. Measured by the ability of the immobilized protein to enhance the adhesion of HUVEC human umbilical vein endothelial cells. The ED_{50} for this effect is 1-6 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in HEPES, NaCl, TCEP, PEG and Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 400 µg/mL in water.
Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	• 12 months from date of receipt, ≤ -20 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

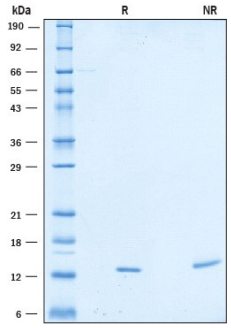
DATA

Bioactivity



Recombinant Human Galectin-2 (Catalog # 9874-GA) agglutinates human red blood cells. The ED_{50} for this effect is 5-25 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Human Galectin-2 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 12-15 kDa.

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BACKGROUND

Galectins constitute a large family of carbohydrate-binding proteins with specificity for N-acetyl-lactosamine-containing glycoproteins. To date, 15 mammalian galectins, which share structural similarities in their carbohydrate-recognition domains (CRD), have been identified. Twelve galectin genes are found in humans, including two for galectin-9. The galectins have been classified into the prototype galectins (-1, -2, -5, -7, -10, -11, -13, -14, -15), which contain one CRD and exist either as a monomer or a noncovalent homodimer; the chimera galectin (galectin-3) containing one CRD linked to a nonlectin domain; and the tandem-repeat galectins (-4, -6, -8, -9, -12) consisting of two CRDs joined by a linker peptide. (1). Galectin-2 is an approximately 14-kDa homodimeric protein, and like other prototype galectins, consists of a single CRD (2-4). Human Galectin-2 shares 66% and 67% amino acid sequence identity with mouse and rat Galectin-2, respectively. Galectins lack a classical signal peptide and can be localized to the cytosolic compartments where they have intracellular functions. However, via one or more as yet unidentified non-classical secretory pathways, galectins can also be secreted to function extracellularly. Individual members of the galectin family have different tissue distribution profiles and exhibit subtle differences in their carbohydrate-binding specificities. Each family member may preferentially bind to a unique subset of cell-surface glycoproteins (5-7). Galectin-2 is expressed in hepatoma, stomach epithelial cells and in colorectal and neural tumors. The specific functions of Galectin-2 have not been reported but increased serum levels of Galectin-2 have been associated with metastatic cancer and this may also be involved in cancer cell adhesion to vascular endothelium (8).

References:

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