Galectin-3 is a member of the family of animal lectins, which selectively binds β-galactoside residues. Galectin-3 is a chimeric molecule consisting of both carbohydrate recognition and collagen-like domains, with an extra N-terminal tail consisting of 8-13 copies of a 9 amino acid repeat consensus sequence that is rich in proline, tyrosine, and glycine. It is secreted from cells by ectocytosis, which is independent of the classical secretory pathway through the endoplasmic reticulum/Golgi network. Galectin-3 is present in nuclear, cytoplasmic, and extracellular sites and is able to interact with a variety of carbohydrate and protein ligands to form pentamers with unique crosslinking abilities. Galectin-3 has also been shown to have an affinity for lactose and N-acetyllactosamine. Galectin-3 has been associated with the inhibition of apoptosis and the progression of cancer, as well as being a mediator of inflammation. Studies have found a positive correlation between the expression of galectin-3 and tumorigenicity and metastasis in colon, liver, and thyroid cancer. In a recent study, galectin-3 was found in 91% of the patients with lung adenocarcinomas. In prostate, ovarian, and breast cancer, loss or down-regulation of the nuclear expression of galectin-3 was associated with malignancy.

Galectin-3 that is overexpressed has been shown to increase resistance to apoptotic stimuli induced by the anti-Fas antibody, staurosporine, TNF, radiation, and nitric oxide. Galectin-3 has been shown to have considerable sequence similarity to Bcl-2 protein, a known suppressor of apoptosis. It is believed to play the role of a survival factor against cytotoxic, reactive nitrogen and oxygen species, due to the Bcl-2-like function.

Recombinant, human galectin-3 contains 250 amino acids with an amino terminal methionine residue. It has a predicted molecular mass of ~26 kDa.

The lyophilized product contains 200 µg of lactose as a stabilizer per 100 µg of galectin-3.

Purity: ≥95% (SDS-PAGE)

Preparation Instructions
A stock solution may be prepared by addition of sterile PBS at 37 °C. For use in carbohydrate binding assays, the solution should be dialyzed to remove the lactose stabilizer.

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability
The product is shipped on wet ice and should be stored at −20 °C. Lyophilized samples are stable for up to 12 months at −20 to −80 °C.

A sterile galectin-3 stock solution is stable for 3–4 months when stored at 4–8 °C with a molar excess of lactose. Avoid repeated freeze-thaw cycles.
References: