

Product Information

Galectin-3C human, recombinant, expressed in *E. coli*

Product Number **G5295**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Product Description

Galectin-3C is a family member of animal lectins, which selectively binds β -galactoside residues. The 143 amino acid residues on the C-terminus containing the carbohydrate binding domain of recombinant human galectin-3C has a predicted molecular mass of approximately 16 kDa.¹

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.² Galectin-3 is present in nuclear, cytoplasmic, and extracellular sites³ and is able to interact with a variety of carbohydrate and protein ligands to form pentamers with unique crosslinking abilities.⁴ Galectin-3 has also been shown to have an affinity for lactose and N-acetyllactosamine.²

Galectin-3 has been associated with the inhibition of apoptosis and the progression of cancer,⁵ as well as being a mediator of inflammation.⁶ Studies have found a positive correlation between the expression of galectin-3 and tumorigenicity and metastasis such as in colon,⁷ liver,¹ and thyroid⁸ cancer.² In a recent study, galectin-3 was found in 91% of the patients with lung adenocarcinomas.⁴ In prostate^{9,10} and ovarian¹¹ cancers loss or down-regulation of the nuclear expression of galectin-3 was associated with malignancy. Galectin-3C was found to be effective in reducing metastases and tumor volumes and weights in primary tumors in an orthotopic nude mouse model of human breast cancer.¹²

The product is lyophilized from a 40 μM solution in deionized water with 2 μg of lactose per μg of lectin.

Purity: $\approx 95\%$ (SDS-PAGE)

Preparation Instructions

A stock solution may be prepared by addition of sterile PBS at 37 $^{\circ}\text{C}$. For use in carbohydrate binding assays, the solution should be dialyzed to remove the lactose stabilizer.¹

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 $-20\text{ }^{\circ}\text{C}$. Lyophilized samples are stable for up to 12 months at -20 to $-80\text{ }^{\circ}\text{C}$.

A sterile galectin-3C stock solution is stable for 3–4 months when stored at 4–8 $^{\circ}\text{C}$ with a molar excess of lactose. Avoid repeated freeze-thaw cycles.¹

References:

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