

ABSOLUTE LECTINS

05-0102 Triticum vulgaris lectin (WGA)



Benefits

- Ultrapure quality
- Sugar specificity: N-acetylglucosamine and N-acetylneuraminic acid residues
- Agglutinates erythrocytes and most types of malignant cells
- Agglutinates rabbit erythrocytes at ≤ 0.1 $\mu\text{g/ml}$ after treating the cells with trypsin
- Not blood group specific

Product description

Triticum vulgaris lectin or Wheat germ agglutinin (WGA) is isolated from Triticum vulgaris (Wheat germ) and purified by affinity chromatography. The lectin has two subunits and a molecular weight of 36 kDa. WGA selectively binds to N-Acetylglucosamine (GlcNAc) and to N-acetylneuraminic acid (sialic acid) residues of glycoproteins and glycolipids (1).

The WGA lectin agglutinates erythrocytes and most types of malignant cells. It agglutinates rabbit erythrocytes at < 0.1 $\mu\text{g/ml}$ following trypsin treatment of the cells. Adding 300 mM N-Acetyl-D-Glucosamine gives an inhibition with a titer that is at least 8-fold lower than the control.

Wheat germ agglutinin inhibits the C5a receptor interaction, which has implications in studies of receptor micro-heterogeneity and ligand binding sites (1).

WGA together with Con A is the lectin most widely used as an analytical and preparative agent when studying glycoproteins and cell surface proteins. The immobilized lectin can be used for affinity chromatography of cells and sub-cellular particles.

Medicago's WGA is supplied as a white to pale yellow lyophilized powder from a buffer containing 10 mM $\text{CH}_3\text{COONH}_4$. No preservatives are added. The purity of WGA is determined by SDS-electrophoresis which generates three bands, corresponding to the three isolectins of WGA. Protein content is verified in spectrophotometry. The lectin is available in vials containing 100 mg, 25 mg or 10 mg powder and the product is to be used for laboratory work only.

Applications

- Studies of glycoproteins and glycolipids
- Purification of membrane proteins
- Affinity chromatography of cells and sub-cellular particles

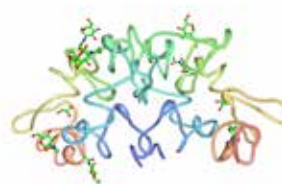


Figure 1: Crystal structure of Triticum vulgaris lectin (WGA) (1)

Specifications	Triticum vulgaris lectin (WGA) (05-0102)
Appearance	White to pale-yellow lyophilized powder or flocculate
Source	Wheat germ
Molecular weight	36 kDa
Sugar specificity	GlcNAc
Activity	Agglutinates erythrocytes and most types of malignant cells.
Microorganisms	≤ 100 CFU/g
Shelf life	\geq Three years when stored at -20°C

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05-0102 *Triticum vulgare* lectin (WGA)

Directions for use

The lectin may be reconstituted with 2 ml of deionized water before use, spin the vial gently until full dissolution. The solution may be reconstituted in this buffer to desired working concentration. Storage at pH 8.6–8.8 causes precipitation.

Tips and hints

Avoid repeated freezing and thawing.

Shipping and storage

The product is shipped at -20°C however for over-the-day transport it may be shipped at ambient temperature. The lyophilized powder is stable for more than three years from production date when stored below -20°C. After reconstitution with deionized water, the solution may be stored frozen in working aliquots for up to 12 months.

Certifications

Medicago's laboratories and manufacturing site in Uppsala are ISO 9001:2015 certified. Each stage of the manufacturing process is controlled and monitored by stringent quality control procedures to guarantee the highest possible quality and lot-to-lot reproducibility.

Ordering information

Article no.	Product name	Pack size
05-0102-10mg	<i>Triticum vulgare</i> lectin	10 mg
05-0102-100mg	<i>Triticum vulgare</i> lectin	100 mg
05-0102-1g	<i>Triticum vulgare</i> lectin	1 g
05-0102-10g	<i>Triticum vulgare</i> lectin	10 g
05-0102-100g	<i>Triticum vulgare</i> lectin	100 g

References

(1) Johnson R. J., Simpson S., Van Epps D. E., Chenoweth D. E. (1992) Wheat germ agglutinin inhibits the C5a receptor interaction: implications for receptor microheterogeneity and ligand binding site. *Journal of Leukocyte Biology* Vol 52, Issue 1, 3–10.

