

Wheat Germ Agglutinin (WGA)

L-WGA20 (Lot 61002) and L-WGA100 (Lot 61001)

11/2006

PROPERTIES

(1) FORM

Off-white lyophilised powder (affinity purified).

(2) SPECIFICITY

WGA is a non-blood group specific lectin. It has an affinity for oligomers of N-acetyl glucosamine with activities being reported as $\text{GlcNAc} < (\text{GlcNAc})_2 < (\text{GlcNAc})_3 = (\text{GlcNAc})_4 < (\text{GlcNAc})_5^a$.

(3) ACTIVITY

WGA at a concentration of 20 $\mu\text{g}/\text{mL}$ gives a 50 % agglutination of a 2 % suspension of human red blood cells [type O(H)]. Incubations performed for 1 h at room temperature in phosphate saline buffer (PBS).*

(4) PROPERTIES

UV absorbance (in 10 mM phosphate buffer, pH 7.0) $\lambda_{\text{max}} = 275.8; \lambda_{\text{min}} = 250.5 \text{ nm}$

Solubility: 1 mg/mL in PBS (pH 7.2); ~ 1 mg/mL in 1 mM Tris/HCl (pH 7.4);

> 10 mg/mL in 100 mM acetic acid.

(5) STORAGE / STABILITY / SAFETY

Storage temperature: 2 - 8°C. (or -20°C)

Shelf life: > 3 years (at -20°C).

Safety statement: Please refer to the MSDS sheet for this product on the Megazyme website.

(6) ELECTROPHORETIC PURITY

- single major band band on SDS-gel electrophoresis (MW = 18,000); several very minor bands.

- reported^b pI of 8.7 ± 0.3 for isolectins I, IIa and III; and 7.7 ± 0.3 for isolectin IIb.

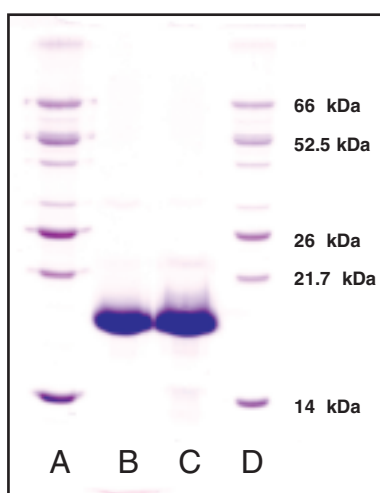


Figure 1. SDS-PAGE analysis of WGA. Electrophoresis was performed using a 14 % acrylamide gel.

lane A, low molecular weight markers (in-house standards);

lane B, Competitor WGA, 10 μg ;

lane C, Megazyme WGA, 10 μg ;

lane D, low molecular weight markers (in-house standards).

a. Allen, A. K., Neuberger, A. & Sharon, N. (1973). *The purification, composition and specificity of wheat-germ agglutinin.* **Biochemical Journal** **131**(1): 155-62.

b. Rice, R. H. & Etzler, M. E. (1975). *Chemical Modification and Hybridization of Wheat Germ Agglutinins.* **Biochemistry** **14**(18): 4093-4099.

* PBS = 8.0 g NaCl, 0.3 g KCl, 0.2 g KH_2PO_4 g/L, pH=7.2