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WHEAT GERM AGGLUTININ (WGA), AGAROSE BOUND

SKU: AL-1023



DESCRIPTION

Agarose bound *Wheat germ agglutinin* (WGA) is prepared using 4% agarose beads. The receptor sugar for WGA is *N*-acetylglucosamine, with preferential binding to dimers and trimers of this sugar. WGA can bind oligosaccharides containing terminal *N*-acetylglucosamine or chitobiose, structures which are common to many serum and membrane glycoproteins.

Features:

• Bead diameter ranges in size from 45-165 microns
• Matrix is stable in solutions at pH 3-11 as well as many organic solvents
• Immobilized lectins are prepared using affinity purified lectins
• Covalent attachment preserves lectin activity and minimizes conformational changes that might result in nonspecific or hydrophobic interactions
• Conjugated proteins are not leached off the beads by Tris or other routinely used buffers
• No residual charges present after conjugation. This minimizes non-specific binding to the matrix

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• Product supplied as a 1:1 suspension in buffer

SPECIFICATIONS

Molecular Weight	36
Extinction Coefficient	1.46
Formulation	10 mM HEPES, pH 7.5, 0.15 M NaCl, 20 mM GlcNAc, 0.08% sodium azide
Inhibiting or Eluting Sugar	GlcNAc or Chitin Hydrolysate
Label Modifier Type	Lectins
Unit Size	2 ml, 10 ml
Storage Instructions	2-8 °C DO NOT FREEZE
Sugar Specificity	Terminal GlcNAc-β, terminal GlcNAc-a and terminal N-acetyl-containing glycans
Usage Summary	Wash gel thoroughly with buffer before use to remove sugar added to stabilize the lectin. Recommended product for eluting glycoconjugates bound to this agarose-lectin: Glycoprotein Eluting solution, Cat. No. ES-5100. Alternately, 0.5 M N-Acetyl-D-Glucosamine or Chitin Hydrolysate (Cat. No. SP-0090) can be used. For those glycoconjugates having very high affinity for WGA, it may be necessary to lower the pH of the eluting sugar solution to pH 3.0 with acetic acid. After use, wash the gel with several column volumes of buffered saline, then resuspend gel in buffered saline containing 0.08% sodium azide for storage.
Conjugate	Agarose

TECHNICAL INFORMATION

Bacterial cell wall peptidoglycans, chitin, cartilage glycosaminoglycans, and glycolipids can also bind WGA. Native WGA has also been reported to interact with some glycoproteins via sialic acid residues (see succinylated WGA). This lectin is used for the purification of insulin receptors and for neuronal tracing.

Agarose bound* WGA is prepared using our affinity-purified lectins. Heat stable, cross-linked 4%

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agarose beads with a molecular weight exclusion limit of about 2×10^7 daltons are used as the solid-phase matrix to which the lectins are covalently coupled. The attachment of the lectins to the beads is carefully controlled to preserve lectin activity and minimize conformational changes of the bound lectins that might result in nonspecific ionic or hydrophobic interactions. The technique we have developed to couple lectins to agarose beads inserts a hydrophilic spacer arm between the lectin and the matrix.

This coupling method provides several advantages over the traditional cyanogen bromide procedure:

- Maximum carbohydrate binding activity of the coupled lectins is retained
- Linkage is stable over a range of pH values
- Conjugated proteins are not leached off the beads by Tris or other routinely used buffers
- No residual charges are present after conjugation. This minimizes non-specific binding to the matrix.

Our agarose bound lectins are supplied at a constant concentration of lectin per ml of settled beads. The concentration for each lectin is selected to achieve the highest glycoconjugate binding capacity per mg of lectin present in the beads. Each lot is tested for its binding capacity using glycoproteins known to bind the lectin. This provides a guideline for the user and assures the quality of our agarose bound lectins.

Inhibiting/Eluting Sugar: Chitin Hydrolysate or 500 mM *N*-acetylglucosamine with salt and/or acid elution generally required

*5 mg lectin/ml gel

CITATIONS

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DOCUMENTS

- Safety Data Sheet
- Lectins in Histochemistry, ELISA, and Western Blot Applications
- User Guide

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