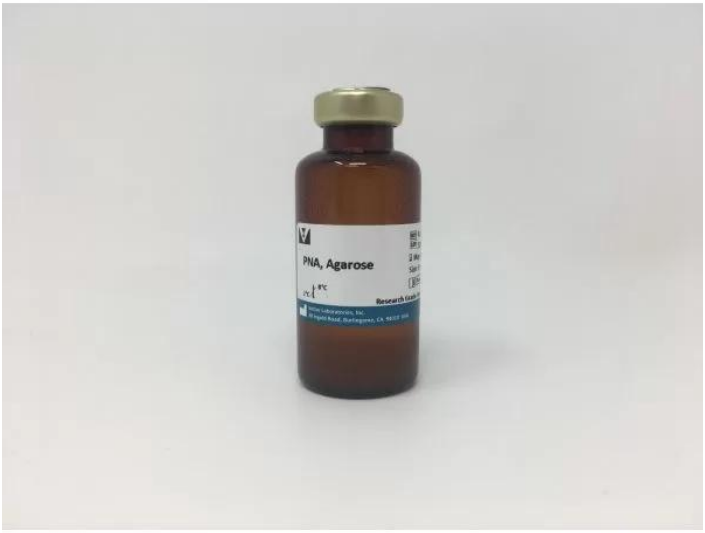
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PEANUT AGGLUTININ (PNA), AGAROSE BOUND

SKU: AL-1073



DESCRIPTION

Agarose bound PNA is prepared using our affinity-purified lectins. Peanut agglutinin binds preferentially to the T-antigen, a galactosyl (β-1,3) *N*-acetylgalactosamine structure present in many glycoconjugates such as M and N blood groups, gangliosides, and many other soluble and membrane-associated glycoproteins and glycolipids. With certain exceptions, the receptor sequence for PNA is normally sialylated which prevents the lectin from binding to its receptor oligosaccharide (see Jacalin). Even sialic acid which is not bound directly to the receptor sugars may inhibit binding. The presence of calcium ions in diluents can enhance the binding of PNA to receptors, possibly by neutralizing the negative charges on sialic acid residues adjacent to the receptor sequence.

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

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• 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
• Product supplied as a 1:1 suspension in buffer
• Inhibiting/Eluting Sugar: 200 mM galactose or Glycoprotein Eluting Solution (ES-2100)

SPECIFICATIONS

Molecular Weight	110
Extinction Coefficient	0.89
Formulation	10 mM HEPES, pH 7.5, 0.15 M NaCl, 0.1 mM CaCl2, 20 mM galactose, 0.08% sodium azide
Inhibiting or Eluting Sugar	Galactose
Label Modifier Type	Lectins
Unit Size	2 ml, 5 ml
Storage Instructions	2-8 °C DO NOT FREEZE
Sugar Specificity	Core 1 and core 2 O-glycans
Usage Summary	Wash gel thoroughly with buffer before use to remove sugar added to stabilize the lectin. Use of buffers containing 0.1 mM CaCl2and 0.01 mM MnCl2is recommended. Recommended product for eluting glycoconjugates bound to this agarose-lectin: Glycoprotein Eluting Solution, Cat. No. ES-2100. Alternatively, 200 mM galactose in 10 mM HEPES-buffered saline, pH 7.5 can be used.For those glycoconjugates having very high affinity for PNA, 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

PNA is useful in distinguishing between normal and tumor tissues and in assessing malignancy in transitional mucosa. In addition, PNA binding can be used to measure cellular maturity in

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lymphoid tissues, to distinguish a variety of lymphocyte subpopulations in man and experimental animals, and to measure the levels of lymphoid cell populations in many diseases. PNA can be employed in the fractionation of stem cells in mice for use in bone marrow transplantation across histocompatibility barriers.

A major cell surface receptor for PNA may be asialo GM_1 ganglioside. Since PNA shares specificity with the antibody to this glycolipid, PNA and the antibody can be used interchangeably in some applications.

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

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.

*5 mg lectin/ml gel

CITATIONS

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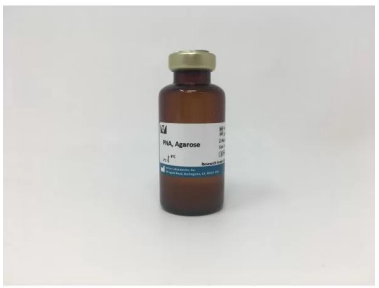
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DOCUMENTS

- Safety Data Sheet
- Lectins in Histochemistry, ELISA, and Western Blot Applications
- Download CoA
- Datasheet

GALLERY IMAGES









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