Product Information

D-Mannose-Agarose

M6400
Storage Temperature 2-8 °C

Product Description

Appearance: white aqueous suspension of agarose beads in 0.5 M NaCl containing preservative.

M6400 Matrix: cross-linked 4% beaded agarose, with divinyl sulfone activation and 5-atom spacer.

Binding capacity: 50-70 mg Concanavalin A per mL.

M6400 is prepared using a divinyl sulfone-activated agarose.[1,2] The D-mannose is attached through hydroxyl groups in either resin. The primary alcohol at the C-6 position is the probable site for the coupling reaction.[3]

These resins may be used to isolate mannose-binding proteins such as the lectin concanavalin A.[1] Consult the literature for suggested buffers and optimal pH for specific proteins. Similar resins have been used for lectin purification.[4] *Methods in Enzymology* is a key source of general protocols.[5]

Before use, the agarose beads must be rinsed two or three times with 5-10 column volumes (CV) of water to remove the preservative solution, then equilibrated with buffer, using two washes of 5-10 CV. This may be done batchwise in a small filter funnel or centrifuge tube before preparing a column.

A protein solution is loaded onto the column in a suitable buffer, then washed until all non-bound protein has passed through the resin (monitoring absorbance at 280 nm). Elution of specifically bound protein may be accomplished by changing the buffer in one or more of these ways: adding mannose to the elution buffer; increasing ionic strength of the elution buffer; and changing the pH as well as adding NaCl.

Regenerate the agarose column for re-use by washing with:

1. Approximately ten CV buffer (pH 5-9) containing 0.1 to 0.2 M mannose
2. Approximately ten CV 2.0 M sodium chloride
3. Approximately 10-20 CV distilled water

For immediate re-use, equilibrate with buffer as noted above.

For long-term storage, place the resin in 0.5 M NaCl with bacteriostat and store at 2-8 °C

Storage/Stability

The suspension is stable in 0.5 M NaCl with bacteriostat at 2-8 °C for at least a year. The beads should not be allowed to dry out or freeze.

References

1. Sigma production.
2. Hermanson, G.T. et al., *Immobilized Affinity Ligand Techniques* , Eds. (Academic Press, (1992), 164.
3. Uy, R. and Wold, F., *Anal. Biochem*., 81, 98-107 (1977).
4. Allen, H.J. and Johnson, E.A., *Carbohydrate Research*, 58, 253-265 (1977).
5. *Methods in Enzymology*, 34B (1974).

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