



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone (800) 325-5832 (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

D-MANNOSE - AGAROSE

Product Number **M6400 AND M6525**

Storage Temperature 2-8°C

Product Description

Appearance: white aqueous suspension of agarose beads in 0.5 M NaCl containing 0.02% thimerosal

M6400: Matrix: cross-linked 4% beaded agarose, with divinyl sulfone activation and 5-atom spacer
Binding capacity: 50-70 mg Concanavalin A per mL

M6525: Matrix: cross-linked 4% beaded agarose, with epoxy activation and 12-atom spacer

M6400 is prepared using a divinyl sulfone-activated agarose.^{1,2} M6525 is prepared using epoxy-activated agarose.^{1,3} 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

- approximately ten CV buffer (pH 5-9) containing 0.1 to 0.2 M mannose
- approximately ten CV 2.0 M sodium chloride
- 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

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

ckv 7/31/98

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.