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A Geno Technology, Inc. (USA) brand name

Concanavalin A (Con A) Agarose

(Cat. # 786-208, 786-216, 786-217, 786-218)

INTRODUCTION

Concanavalin A (Con A) Agarose consists of Con A coupled to 6% agarose beads. Con A is a tetrameric metalloprotein lectin isolated from *Canavalia ensiformis* (jack bean). Con A is used for the purification of glycoproteins, polysaccharides and glycolipids as it binds molecules containing α-D-mannopyranosyl, α-D-glucopyranosyl and sterically related residues. Con A agarose has also been used in other application areas including purification of enzyme-antibody conjugates, purification of IgM and separation of membrane vesicles.

As stated above, Con A is a metalloprotein and to maintain its binding characteristics the presence of both Mn^{2+} and Ca^{2+} is essential. Each subunit of Con A utilizes one calcium and one manganese ion and these cations can be removed under acidic conditions abolishing the carbohydrate-binding activity.

ITEM(S) SUPPLIED

Cat. #	Description	Size[1]
786-208	Concanavalin A (Con A) Agarose	10 columns[2]
786-216	Concanavalin A (Con A) Agarose	5ml resin
786-217	Concanavalin A (Con A) Agarose	25ml resin
786-218	Concanavalin A (Con A) Agarose	100ml resin

1. Concanavalin A (Con A) Agarose is supplied as a 50% slurry in 0.1M acetate, pH6.0, 1M NaCl, 1mM $CaCl_2$, 1mM $MnCl_2$, 1mM $MgCl_2$, 20% ethanol.

2. Spin columns supplied with 0.75ml resin in 0.1M acetate, pH6.0, 1M NaCl, 1mM $CaCl_2$, 1mM $MnCl_2$, 1mM $MgCl_2$, 20% ethanol

STORAGE CONDITIONS

It is shipped at ambient temperature. Upon arrival, store refrigerated at 4°C, **DO NOT FREEZE**. This product is stable for 1 year at 4°C.

SPECIFICATIONS

- Ligand Density: 10-16mg Con A/ml resin
- Capacity: 20-50mg thyroglobulin/ml resin
- Bead structure: 6% agarose
- pH Stability: 4-9

IMPORTANT INFORMATION

- Concanavalin A (Con A) Agarose requires Mn^{2+} and Ca^{2+} ions for carbohydrate binding, so buffers should either include these metal ions or the resin should be equilibrated with these ions immediately prior to binding.
- Avoid buffers with chelating agents (EDTA) as these will remove the essential Mn^{2+} and Ca^{2+} ions.

ADDITIONAL ITEMS REQUIRED

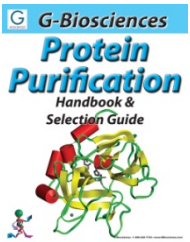
- Equilibration Buffer: 1M NaCl, 5mM $MgCl_2$, 5mM $MnCl_2$ & 5mM $CaCl_2$, pH 6.5-7.5
- Binding Buffer: 20mM Tris, pH7.4 supplemented with 0.5M NaCl to limit non-specific interactions
  NOTE: *Binding buffers should be pH6.5-7.5, although the Con A Agarose can be used as low as pH4.1. For buffers with pH<5, supplement with 1mM $MnCl_2$ & $CaCl_2$.*
- Elution Buffer: Elute with an increasing gradient (step or linear) of methyl-α-D-mannopyranoside (α-D-methylmannoside) or Methyl-α-D-glucopyranoside (α-D-methylglucoside). Glucose or mannose can be used, but are weaker eluents.
  NOTE: *Most substances elute at 0.1-0.2M, but higher concentrations may be required. We recommend gradients ranging from 5-500mM for first time use.*
- Columns (optional): G-Biosciences offers columns for a large range of resin volumes (Cat. # 786-718 to 786-724)

PROCEDURE

1. Allow the resin and reagents to equilibrate to room temperature before opening.
2. Transfer an appropriate amount of resin to a suitable column.
3. Wash the resin with 5 column volumes of Equilibration Buffer to ensure the presence of Mn^{2+} and Ca^{2+} ions.
4. Wash the resin with 2-3 column volumes of Binding Buffer.
5. Apply 1-20mg protein solution for every ml of resin.
6. Wash the column with 5 column volumes of Binding Buffer.
7. Elute using an appropriate gradient and collecting suitable fractions.
8. Regenerate the resin by washing with 2-3 column volumes of 0.1M Borate, pH8.5 buffer supplemented with 0.5M NaCl, followed by 2-3 column volumes of 0.1M sodium acetate, pH4.5 buffer supplemented with 1M NaCl. Repeat this step three times then equilibrate in Binding Buffer.
9. Store the resin at 4°C in 0.1M acetate buffer, pH6 supplemented with 1M NaCl, 1mM $MgCl_2$, 1mM $MnCl_2$ & 1mM $CaCl_2$ with 20% ethanol as a preservative.

RELATED PRODUCTS

Download our Protein Purification Handbook.



http://info.gbiosciences.com/complete-protein-purification-handbook

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