Product Specification

Product Name: Con A MagPoly Beads

Product Code: MAGP017 / MAGP018 / MAGP019 / MAGP020

PRODUCT DESCRIPTION:

Con A MagPoly Beads are superparamagnetic polymer beads with surface modification Concanavalin A (Con A). Con A is a plant haemagglutinin separated from giant bean (Jack bean, Canavalia ensiformis), which can bind α-D-pyran mannose, α-D-pyran on glucose and Molecular groups related to its space position of the combination. Con A binds to carbohydrate molecules mainly in the hydroxyl part of C-3, C-4 and C-6. Con A combines better with D-pyranoid mannose than with D-pyranosaccharide. Con A MagPoly Beads are used to isolate and purify some glycoproteins, membrane proteins, sugar lipids, polysaccharides, membrane vesicles with mannitin or glucoside residues, lgM, hormone lipoproteins and so on. Substances such as trypsin inhibitors in human serum, alkaline phosphatase, calf spleen phosphodiesterase, various variants of alpha-fetoglobulin and certain hormones such as chorionic gonadotropin (HCG) and luteinizing hormone (LH) can be purified with it.

Product Code	Size
MAGP017	1 ml
MAGP018	5 ml
MAGP019	10 ml
MAGP020	25 ml

Item	Description
Matrix:	Polymer magnetic beads
Ligand:	Concanavalin A
Binding Capacity:	> 10 µg conalbumin/mg Beads
Particle Size (µm):	1 µm
Storage Buffer:	20 mM Tris pH 7.4, 0.01% Tw20 (v/v), 0.05%kv300 (v/v)
Beads Concentration:	10 mg/ml
Storage Temperature:	2℃ - 8℃

PURIFICATION PROCEDURE

1. Sample Preparation

Mammalian cell plasma membrane preparation: Samples are to be chopped and homogenized with a pre-cooled solution containing 1 mM $CaCl_2$, protease inhibitors, and 50mM HEPES (pH7.4). After filtration, centrifuge at 5000 × g for 30 seconds and discard the supernatant.

The membrane fragments can be suspended with equilibrium solution, and the plasma membrane can be separated by sucrose density gradient centrifugation.

1) Preparation of the plasma membrane: Cells are collected and homogenized in an equilibrium solution.
2) Collect cells and suspend with a balancing solution.

2. Buffer Preparation

Water and chemicals used for the buffer preparation should be of high purity. It is recommended to filter the buffers by passing them through a 0.22 µm or 0.45 µm filter before use.

Binding/Wash Buffer: 20mM Tris, 0.1M NaCl, 1mM $CaCl_2$, 1mM $MgCl_2$, 1mM $MnCl_2$, 0.1% Tween-20, pH7.4

Elution Buffer: 20mM Tris-HCl, 0.5M NaCl, 1mM $CaCl_2$, 1mM $MnCl_2$, 0.1M-0.2M Dew α-D-methyl glucoside or α-D-methyl glucoside, pH7.4

3. Purification

3.1 Preparation of the Magnetic Beads

1) Completely resuspend the beads by shaking or vortexing the vial.
2) Transfer 100 µl Con A MagPoly Beads to a new tube.
3) Place the tube on a Magnetic Separation Rack to collect the beads at the tube wall. Remove and discard the supernatant.
4) Add 0.5 ml of wash buffer to the tube and invert the tube several times to mix. Use the magnetic separation rack to collect the beads and discard the supernatant. Repeat this step twice.

3.2 Sample Adsorption

1) Add the sample prepared in Step 2 to the tube prepared in Step 3.1 (4), re-suspend the beads, then place the tube in a Rotating Mixer at room temperature, for a mixing time of 1 hour.
2) Place the centrifuge tube on a Magnetic Separation Rack and remove the supernatant once all the magnetic beads have adsorbed to the tube wall. If necessary, the supernatant can be retained for further testing.
3) Add 200µl of wash buffer to the magnetic beads, then mix evenly and place them on a Magnetic Separation Rack. Remove the supernatant after all the magnetic beads are collected at the tube wall. Repeat this wash step at least 3 times.

3.3 Sample Elution

1) Add 50-100 µl of elution buffer to the magnetic beads and mix well. Place the beads in a Rotating Mixer at room temperature or gently invert the centrifuge tube manually for 10 minutes.
2) Place the centrifuge tube on a Magnetic Separation Rack, and once all the magnetic beads are adsorbed, transfer the supernatant into a new centrifuge tube. This supernatant is the target sample.

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