

Dynal MPC™-6

Magnetic Particle Concentrator

For research use only

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1. PRODUCT DESCRIPTION

1.1 Intended Use

Dynal MPC™-6 is a tool to separate Dynabeads® from diverse liquid sample matrices.

1.2 Intended User

Any laboratory skilled in using conventional laboratory techniques that follow good laboratory practices may use Dynal MPC-6 for immunomagnetic separation with Dynabeads.

1.3 Principle

Immunomagnetic separation with the Dynal MPC-6 is based on the principle that the target cells to be isolated are rosetted by Dynabeads. After incubation with the appropriate Dynabeads, target cells can then be easily and specifically removed from a heterogeneous mixture. When the tube containing the target cells is inserted into the MPC-6, the Dynabeads are attracted to the magnet adjacent to the tube wall. This enables easy removal of supernatant while the Dynabeads are left isolated in the tube.

After washing, target cells can be used in further studies (positive cell isolation).

Cells remaining in the supernatant depleted of the target cells can also be used (negative selection).

1.4 Description of materials

The Dynal MPC-6 has been designed to hold 6 separate tubes with variable diameters 10-30 mm and volumes 5-15 ml.

The Dynal MPC-6 is made from disinfectant-proof polyacetate equipped with Invitrogen Dynal rare earth magnets (Neodymium-Iron-Boron permanent magnets).

The high permanent magnetic properties ensure satisfactory isolation of Dynabeads immunomagnetic beads.

2. PROTOCOL

2.1 Immunomagnetic Separation

1. Incubate Dynabeads with the desired target in a tube according to the protocol described in the relevant Dynabeads Product Insert.
2. For immunomagnetic separation, place the tube(s) in the Dynal MPC-6. Ensure that they are properly inserted.
3. Allow the tubes to remain in the Dynal MPC-6 for 2-4 minutes. During this time the Dynabeads-target complexes will be attracted to the

wall of the test tube by the magnetic field. The magnetic separation may, depending on the experimental conditions, be enhanced by an extended separation time and an occasional, gentle tilting of the Dynal MPC-6 while the tubes are held in position.

4. Remove the supernatant from each tube, either by pipetting or decanting the tubes while they still held by the Dynal MPC-6. The Dynabeads-target complexes are kept on the wall of the test tube by the magnetic field.

Positive isolation

5. After discarding the supernatant (step 4 above), remove the tubes from the Dynal MPC-6. Add wash solution along the wall of the tube where the Dynabeads-target complexes are attached. Refer to the protocol described in the specific Product Insert.
6. Place the tubes in the Dynal MPC-6 for 2-4 minutes and again remove the supernatant. Repeat the washing step.
7. Discard the final wash solution and resuspend the Dynabeads-target complexes. The Dynabeads-target complexes can be concentrated as a pellet in the bottom of the tube by slowly sliding the tube out of the Dynal MPC-6.

Negative isolation and depletion

Magnetic separation can also be used to remove unwanted target from a heterogeneous suspension. Using this approach, the Dynabead-bound target complex is discarded and the untouched target of interest is recovered with a pipette (the supernatant in step 4 above).

NOTE

Immunomagnetic isolation is, as all immunological techniques, critically dependent on the specificity and the avidity of the antibodies used with the immunomagnetic beads. The Dynal MPC-6 only guarantees a satisfactory isolation of Dynabeads, not the isolation of a certain antigen or cell.

2.2 Disinfection of the MPC-6

The following materials have undergone testing regimes for cleaning purposes. Spray and/or wipe the Dynal MPC-6 unit with one of the following cleaning agents:

- 70% isopropyl alcohol
- 1% sodium hypochlorite solution (Bleach)
- 0.1 M HCl solution

Other disinfectants have not been tested and may not be suitable. Avoid prolonged exposure to water or aqueous solutions.

2.3 Precautions

Do not autoclave the Dynal MPC-6.

GENERAL INFORMATION

Manufactured by Invitrogen Dynal AS. Invitrogen Dynal AS complies with the Quality System Standards ISO 9001:2000 and ISO 13485:2003.

3.1 Storage/Stability

The Dynal MPC-6 contains sintered rare-earth Neodymium Iron Boron permanent magnets.

Magnetic strength will not diminish significantly

during the lifetime of the product. Loss of magnetic strength will occur only if the magnets are exposed to temperatures greater than 90°C. Do not leave Dynal MPC-6 exposed to UV light, as the surface material may become brittle.

3.2 Technical Service

Please contact Invitrogen Dynal for further technical information at www.invitrogen.com.

3.3 Warnings and Limitations

Handle the Dynal MPC-6 with care. The Invitrogen Dynal magnets are brittle and can be damaged with improper handling.

The Dynal MPC-6 should not be kept in close contact with magnetic tapes, credit cards, computer discs or other magnetic storage systems, as these can be damaged by the strong magnetic field. Also keep away from pacemakers.

The Health and Safety Officer should take all necessary steps and full responsibility to ensure that the following precautions and statements are followed and adhered to.

3.4 Patents and Trademarks

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3.5 Warranty

The products are warranted to the original purchaser only to conform to the quantity and contents stated on the vial and outer labels for the duration of the stated shelf life. Invitrogen Dynal's obligation and the purchaser's exclusive remedy under this warranty is limited either to replacement, at Invitrogen Dynal's expense, of any products which shall be defective in manufacture, and which shall be returned to Invitrogen Dynal, transportation prepaid, or at Invitrogen Dynal's option, refund of the purchase price.

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