

Activ-MasterBeads 0265

For research use only

PRODUCT DESCRIPTION

Activ-MasterBeads are non porous monodispersed and superparamagnetic beads composed of magnetic core encapsulated by a highly cross-linked hydrophilic polymer shell. *Activ-MasterBeads* offer an innovative surface for covalent coupling of protein without pre-activation step or coupling reagent (EDC), providing assay standardization.

Physical characteristics

Diameter : 510 nm (CV max 20%)

Density : approx. 2.0 g/cm³

Magnetisation at saturation: approx. 40 emu/g

Specific surface area : 5 m²/g

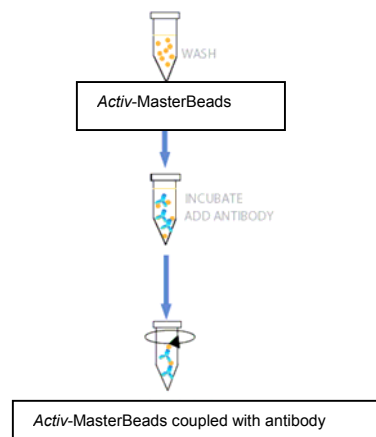
Iron oxide content : approx. 70%

Solid content : 100 mg/ml (10%)

PRINCIPLE

Activ-MasterBeads are ready to use magnetic particles. Covalent coupling is performed by incubating the desired ligand with the beads. Ligands commonly coupled to *Activ-MaterBeads* include peptides antibodies, intact proteins and functional enzymes. The coupling reaction can occur in a broad temperature range making it possible to choose the temperature that is best suited to the stability characteristics of your ligand. The low sedimentation rate due to the nanosize and improved reactions kinetics (short incubation time) compared to other magnetic particles make *Activ-MasterBeads* the best choice for antibody immobilisation for immunoassay.

INSTRUCTION FOR USE



A) General information

Ligand preparation

- A concentration of 10-40µg of proteins per mg of *Activ-MasterBeads* is generally optimal.
- Ligand should be dissolved in PBS or similar buffer, without proteins or stabilizers.
- Avoid buffers with amino groups (e.g Tris).

Time, Temperature

- Usually the ligand coupling can be very rapid (< 30 min).
- Coupling at 37°C speed up the formation of covalent bonds.
- A lower temperature (4°C) can also be used to ensure the stability of ligand and required longer incubation times.
- Maximal covalent bonds of ligand is achieved after 16h-24 hours at any temperature (20°C, 37°C, 4°C).

Recommended buffers

Note: Depending on the ligand, protocol can be customised (incubation time / pH, molarity of coupling buffer or tensio-actif).

- Pre-washing and Coupling buffer
- Activation Buffer (10X, # 10101)

- Washing and Storage buffer
- Storage Buffer (10X, # 10201)

B) Protein immobilisation procedure

Before starting, dilute Activation Buffer (10X) and Storage Buffer (10X) 10 fold in distilled water.

NO EDC is required.

1. Resuspend well the **Activ-MasterBeads** by pipetting several times.

Note: This step is important to ensure coupling reproducibility

2. Transfer the volume of beads to be used into the desired test tube **e.g 1 mg bead = 10µl**

3. Dilute 10 fold the beads with **Activation Buffer** e.g for 1 mg bead (10µl), add **90µl of Activation buffer (1X)**. The concentration of *Activ-MasterBeads* is now 1%.

4. Resuspend **Activ-MasterBeads** in **Activation Buffer (1X)** by pipetting several times.

5. Place the tube on the magnet until pellet formation and discard the supernatant. Remove the test tube from the magnet and resuspend the beads in **100µl of Activation Buffer (1X)**.

6. Repeat one time step 5

Note: After dilution, *Activ-MasterBeads* should be coupled without delay

7. Add the ligand and mix properly

8. Incubate overnight at 20°C under mixing.

Note: Depending on the ligand, protocol can be customised (incubation time / pH, molarity of coupling buffer).

9. After incubation, place the tube on the magnet until pellet forming and discard the supernatant. Remove the test tube from the magnet and resuspend the beads in **100µl of Storage Buffer (1X)**.

10. Repeat steps 9

11. Resuspend the beads in **Storage Buffer (1X)** to achieve your final and desired bead concentration.

ADDITIONAL MATERIAL REQUIRED

- Magnetic device
- Rotation device
- Test tubes

- Related products:

Buffers solutions

- Activation Buffer (# 10101)
- Storage Buffer (# 10201)

Magnetic Devices

- Adem-Mag SV, 1.5 ml (# 20101)
- Adem-Mag MV, 15 ml (# 20102)
- Adem-Mag HV, 50 ml (# 20103)
- Adem-Mag MODULO Classic 4x1.5 ml or 2ml (# 20105)

STORAGE/ STABILITY

When stored in unopened vials at 2-8°C, *Activ-MasterBeads* are stable until expiration date printed on the label.

The *Activ-MasterBeads* must be maintained in liquid during storage and all handling steps. Drying will result in reduced performance. Do not freeze the product.

PRECAUTIONS

Precautions should be taken to prevent bacterial contamination of protein-coated Adembeads. If cytotoxic preservatives are added these must be carefully removed before use by washing.

WARNINGS AND LIMITATIONS

For in vitro research only. Not for use in human diagnostic or therapeutic procedures.

WARRANTY

The products are warranted to the original purchaser only to conform to the quality and contents stated on the vial and outer labels for duration of the stated shelf life.

Ademtech's obligation and the purchaser's exclusive remedy under this warranty is limited either to replacement, at Ademtech's expense, of any products which shall be defective in manufacture, and which shall be returned to Ademtech, transportation prepaid, or at Ademtech's option, refund of the purchase price. Claims for merchandise damaged in transit must be submitted to the carrier.

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