

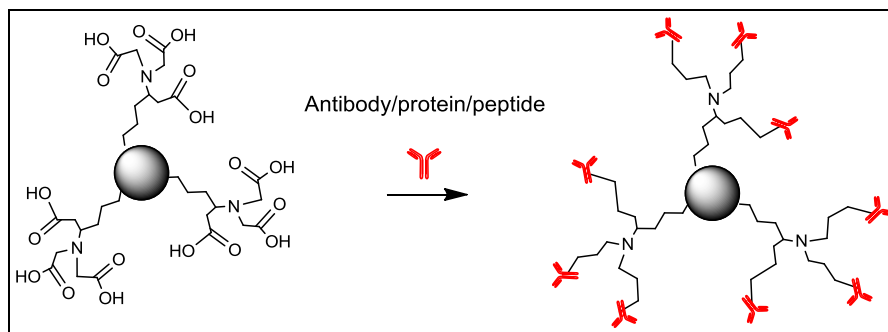
Cat. No. MF-COO-0030/ MF-COO-0060/ MF-COO-0090

Magnetic Fluid-Carboxyl

Product description

Magnetic Fluid-Carboxyl is magnetic bead with surface functional group -COOH. The magnetic bead consists of a single-crystal Fe_3O_4 sphere core and dextran coating layer. Through chemical modification of dextran, the carboxyl groups (-COOH) are joined to the magnetic beads through a short hydrophilic linker. The hydrophilic surface ensures the magnetic beads excellent dispersion ability and easy handling property in a wide variety of buffers.

Through activation of Magnetic Fluid-Carboxyl with EDC, the ligands could be conjugated to the magnetic beads through primary amine groups such as antibody, protein, or peptide.



Specifications

- I. Core material: Fe_3O_4
- II. Surface coating: Dextran
- III. Surface functional group: Carboxyl acid (-COOH)
- IV. Concentration: 8 mg-Fe/mL
- V. Particle size: 30 ~ 40 nm (Cat. No. MF-COO-0030)
 50 ~ 60 nm (Cat. No. MF-COO-0060)
 90 ~ 100 nm (Cat. No. MF-COO-0090)
- VI. Storage buffer: Phosphate buffered saline pH-7.4 with 0.09% sodium azide.

Additional material required

- MES Buffer (pH 6.0):
100 mM MES and 500 mM NaCl
- Quench Buffer :
TBS, pH 8.0 or 5-10 mM hydroxylamine
- PBS, pH 7.4:
137 mM NaCl, 8.1 mM Na_2HPO_4 ,
1.47 mM KH_2PO_4 and 2.7 mM KCl
- Desired antibody or ligand

- Magnetic stand: **Magstand** (MSD-01) for the best performance
- Magnetic separating column
- Tilt rotation device or vortexer
- Clean battle or tubes
- Pipette
- MES [2-(morpholino) ethanesulfonic acid], $C_6H_{13}NO_4S \cdot H_2O$, MW = 213.25, CAS No.145224-94-8
- EDC [1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride], $C_8H_{17}N_3 \cdot HCl$, MW = 191.7, CAS No. 25952-53-8
- NHS [N-hydroxysuccinimide], $C_4H_5NO_3$, MW = 115.09, CAS No. 6066- 82-6

Protocol

Preparation of Magnetic Fluid-Carboxyl for use

- ◆ The protein/peptide to be labeled must be free of amine-containing additives, such as sodium azide, BSA (bovine serum albumin), Tris (tris(hydroxymethyl)aminomethane), glycine, or glycerol and should be suspended in pH-7.4 PBS (phosphate buffered saline).
1. Place a magnetic column on the magnetic separator. Rinse the column with 1 ml MES Buffer.
 2. Transfer 2 ml Magnetic Fluid-Carboxyl into the column. Press the piston to the column gently.
* **NOTE:** Press the piston to the column bottom not more than 1 min.
 3. Take the column out of the magnetic separator.
 4. Add 1 ml MES Buffer into the column. Click the top of column gently and collect the flow-through in a clean battle or tube.

Conjugation of protein or ligands

5. Prepare 50 mg/ml EDC solution in MES Buffer and 50 mg/ml NHS solution in MES Buffer respectively*.
* **NOTE:** Both EDC solution and NHS solution should be prepared freshly, protected from light, and kept on ice before use.
6. Add 0.4 ml EDC solution and 0.4 ml NHS solution to step 4 tube, and mix it.
7. Add 240 – 6000 μg (0.8 – 20 μM) antibody or ligand that you need and mix it.
8. Incubate with tilt rotation or shaker at 4 °C overnight.

Stop the Reaction

9. Add 1 ml Quench Buffer and mix it.
10. Incubate with tilt rotation or shaker for 30 minutes at room temperature.
11. Place a magnetic column on the magnetic separator. Rinse the column with 1 ml pH 7.4 PBS (or the buffer preferred).
12. Transfer the step 10 tube into the column. Press the piston to the column gently.
* **NOTE:** Press the piston to the column bottom not more than 1 min.

13. Add 0.5 ml pH 7.4 PBS (or the buffer preferred) into the column to wash the magnetic beads.
* **NOTE:** The magnetic beads don't stay on magnetic separator more than 30 sec at step 12 & 13.
14. Take the column out of the magnetic separator.
15. Add 0.5 ml pH 7.4 PBS (or the buffer preferred) into the column. Click the top of column gently and collect the flow-through in a bottle or tube.
16. Repeat steps 15.

Storage

Please keep the product at 2-8°C. The validity is warranted for 3 months.

Contact Information

Please contact us when you have any question or comments via e-mail: info@magqu.com, or phone: +886-2-8667-1897.

Remarkable Notes

1. Please keep the reagent away from magnets during storage.
2. Do not freeze.
3. The product is for research use only.



Magnetic Fluid-Carboxyl-21.01.2015

Product Information

Magnetic Qbeads Series

Products	Cat. No.
Qbeads-Protein A	MF-PRA-3000
Qbeads-Protein G	MF-PRG-3000
Qbeads-NTA-Ni	MF-HIS-3000
Qbeads-Streptavidin	MF-STA-3000
Qbeads-Silica	MF-SIL-5010 MF-SIL-5024
Qbeads-Hydroxyl	MF-DEX-3000
Qbeads-Carboxyl	MF-COO-3000
Qbeads-Amine	MF-NHH-3000
Qbeads-Carboxyl Labeling Kit	KT-COO-3000-5SE

Accessory

Products	Description	Cat. No.
Magdorf	for 1.5 ml eppendorf tube	MDF-08
	for magnetic separating column	MSD-01
Magstand	for 15 ml falcon tube	MSD-15
	for 50 ml falcon tube	MSD-50
Magtractor	for 96-well culture plates	MTR-96
	for 24-well culture plates	MTR-24
	for 6-well culture plates	MTR-06

Magnetic NanoParticle Series

Products	Particle size	Cat. No.
Magnetic Fluid- Hydroxyl	30 nm	MF-DEX-0030
	60 nm	MF-DEX-0060
	90 nm	MF-DEX-0090
Magnetic Fluid- Carboxyl	30 nm	MF-COO-0030
	60 nm	MF-COO-0060
	90 nm	MF-COO-0090
Magnetic Fluid- Amine	30 nm	MF-NHH-0030
	60 nm	MF-NHH-0060
	90 nm	MF-NHH-0090
NanoQ-Carboxyl Labeling Kit	60 nm	KT-COO-0060-1SE

Fluorescent Magnetic Nanoparticles

Products	Particle size	Cat. No.
Blue FluoroNanoQ	60 nm	MF-FBL-0060
Green FluoroNanoQ	60 nm	MF-FGR-0060
Red FluoroNanoQ	60 nm	MF-FRE-0060

Customized Conjugation Service

Products	Particle size	Cat. No.
Customized conjugated magnetic beads	3 μ m	MF-CCS-3000
	30 nm	MF-CCS-0030
Antibody or peptide provided by customers (100 ug)	60 nm	MF-CCS-0060
	90 nm	MF-CCS-0090



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