

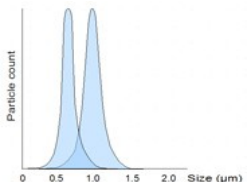
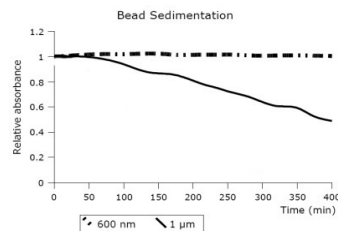
MagSi-Tools 600, 1.0

Product Description



Product nr: MDXXX03 - MDXXX07

Technical Data

| Product Name | MagSi-Tools | |
|-------------------------|---|-------------------------|
| | | 600 |
| Size | 600 nm | 1.0 µm |
| Concentration | 10 mg/ml | |
| | beads/ml | |
| | 8 - 20 · 10 ⁹ | 6 -12 · 10 ⁹ |
| Supplied product volume | 2 ml, 10 ml, 100 ml | |
| Material | Magnetic silica beads with activated surface | |
| Size Distribution | CI 90% | |
| | 350 – 900 nm | 0.7 - 1.4 µm |
| |  | |
| Sedimentation | Bead Sedimentation | |
| |  | |
| Solution additives | MagSi-Tools, surface activated: PBS (pH 7.4), 0.05% Sodium Azide (NaN ₃ , Toxic!) MagSi-S, unmodified silica beads: water, 0.05% Sodium Azide | |
| Storage | Store at 4-8°C | |

Material Supplied

- Vial with MagSi beads suspended in PBS buffer containing 0.05% Sodium Azide. Unmodified MagSi-S beads are stored in water and 0.05% sodium azide

Application

General Information

MagSi-Tools are magnetic silica beads with different surfaces to best suit your needs. Surfaces:

| Surface activated | Formula | Example Applications |
|-------------------|-----------------|---|
| Silica | SiOH | -end-users own application (e.g. functionization of the MagSi beads) |
| Carboxyl | COOH | -Protein and peptide immobilization -Antibody immobilization |
| Aldehyde | CHO | -Protein immobilization |
| Amine | NH ₂ | -Protein immobilization |
| Sulfhydryl | SH | -immobilization via target cysteine groups, coupling to gold surfaces |

The magnetic properties allow easy and quick rinsing steps during modification and in their application.

The beads can be used to immobilize your own protein or molecule to the surface. Or you can use the positive or negative charge to separate molecules by controlling the pH.

Bead Usage

This product is stable at least 1 year after production date when stored at 2-8°C, unless mentioned otherwise on the label. Store beads in well closed vial and in upright position to prevent drying of the beads since this makes them more difficult to resuspend. Do not

freeze the product! Vortex bead suspension well before use. If you expect iron interference in downstream applications, we strongly advise you to rinse the beads before usage.

The MagSi-Tools are suspended in PBS buffer or water with 0.05% sodium azide added as a preservative. Before using the beads it's important to rinse them with water or PBS to remove the NaN₃ that could interfere with your test and for safety reasons since NaN₃ is toxic! MSDS of our products can be found at our site (www.magnamedics.com)

Additional materials needed

Depending on the application, some buffers and materials are needed.

- Magnets for bead separation/collecting.
- Mixer/vortex to mix samples and resuspend beads

Protocols

Protein immobilization

| Bead Surface | Chemicals needed | Protein binding | Treatment | Comments |
|---------------------------------------|---|--|---|---|
| Carboxyl ¹ (COOH) | EDC/NHS | Amine groups (from lysine and/or as unblocked N-termini) | No treatment needed | Can be used to couple most proteins |
| Aldehyde (CHO) | Aldehyde/ Amine reaction | Amine groups | No treatment needed | Add reducing agent to stabilize amide bond |
| Thiol (SH) | EDC/NHS followed by PDEA to introduce a reactive disulphide group | Free cysteine | Reduce disulphides under non-denaturing conditions to generate free cysteine. | Useful for proteins containing cysteines. Risk of multiple coupling |
| Amine ² (NH ₂) | Gluteraldehyde | Amine/ aldehyde | No treatment needed | Add reducing agent to stabilize amide bond |

¹ The first step is to activate the functional groups with N-hydroxysuccinimide in

order of creating a highly reactive succinimide ester which reacts with amine groups contained in protein.

² Gluteraldehyde gives more stable protein binding than the carbodiimide reagents used with carboxylate beads.

Abbreviations: EDC, N-ethyl-N'-(dimethylaminopropyl) carbodiimide; NHS, N-hydroxysuccinimide; PDEA, 2-(2-pyridinyldithio) ethane-amine.

Additional Information

Internet

- www.magnamedics.com

Disclaimer

For R&D use only. Not for drug, household or other uses. Product contains 0.05% Sodium Azide which is toxic. Avoid contact with the suspension buffer. When disposing the suspension buffer, flush with large amounts of water. Material Data Sheet (MSDS) is available on our website at www.magnamedics.com.

Order Information

| Product | Volume | Product number |
|------------------|----------------------|-------------------------------|
| MagSi-S 600 | 2ml 10ml 100ml | MD16003 MD18003 MD19003 |
| MagSi-S 1.0 | 2ml 10ml 100ml | MD01003 MD03003 MD04003 |
| MagSi-S-COOH 600 | 2ml 10ml 100ml | MD16004 MD18004 MD19004 |
| MagSi-S-COOH 1.0 | 2ml 10ml 100ml | MD01004 MD03004 MD04004 |
| MagSi-S-NH2 600 | 2ml 10ml 100ml | MD16005 MD18005 MD19005 |
| MagSi-S-NH2 1.0 | 2ml 10ml 100ml | MD01005 MD03005 MD04005 |
| MagSi-S-SH 600 | 2ml 10ml 100ml | MD16006 MD18006 MD19006 |
| MagSi-S-SH 1.0 | 2ml 10ml 100ml | MD01006 MD03006 MD04006 |
| MagSi-S-CHO 600 | 10ml 100ml | MD18007 MD19007 |
| MagSi-S-CHO 1.0 | 10ml 100ml | MD03007 MD04007 |

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