

Upgraded MagSi products can seamlessly replace discontinued Dynabeads®

MagnaMedics Diagnostics B.V. have developed a high magnetic content (HMC) bead with sizes of 0.6 µm and 1.0 µm (1.2 µm for MagSi-proteomics and MagSi-DNA allround beads) to replace all previous MagSi products. The use of a novel, newly developed ferro fluid (Mag-Ferro) with an magnetisation of up to 40 emu/g raises the magnetic content from ~30% to 50% enhancing the time to magnet significantly (Figure 1).

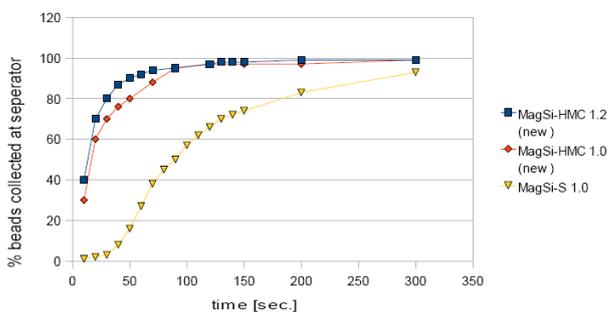


Figure 1: The time to magnet is greatly enhanced with new higher magnetic content beads

Furthermore, Invitrogen™ has recently announced that it is to discontinue Dynabeads® for proteomic applications.

MagSi products can seamlessly replace these discontinued product lines and many other types of Dynabead without major changes in protocols or handling.

MagSi has a proven track record for manual use and robotic platforms (Beckman Coulter®, Tecan®, IDS®, Xyris®, Stratek®, Hamilton®, Roche® and others)

The advantages of the MagSi Products after the upgrade:

- 4-6 times faster and a more complete collection of the MagSi beads.
- Lower carry-over of contaminants.
- Faster protocols can be used (although standard protocols need no adjustment) even with highly viscous solvents and samples.
- Higher yield of your target biomolecule, especially in assays with complex binding kinetics.
- Better reproducibility.
- Small bead with the magnetic performance and strength of a larger version.
- Same size distribution, mean size, surface functionality (e.g. binding capacity, sensitivity) and sedimentation time as the old beads

MagSi-proteomics beads are magnetic beads that are an ideal tool for the purification, concentration and desalting of peptides and protein digests. The surface of the beads has been modified with C4, C8 and C18 -alkyl groups that are typical for reversed phase applications.

The **MagSi-WCX** (weak cation exchange) magnetic beads have typical ion exchange properties well known from classical chromatography. Protein and peptides are charged at the surface and will be adsorbed to magnetic beads under low salt condition. Under high salt conditions or by a pH shift the target proteins/peptides are eluted (ion exchanged). Due to the different binding/elution mechanisms the MagSi-WCX beads are a powerful alternative to the MagSi proteomics beads.

The **MagSi-WAX** (weak anion exchange) magnetic beads are the "counter" beads to the MagSi WCX beads. Binding, washing and elution are also triggered by the protein/peptide total net charge. The MagSi-WAX beads are ideally suited when more acidic proteins/peptides are expected in the sample. However, our protocols given in the corresponding product sheet cover buffer systems for acidic, neutral and basic conditions. MagSi-WCX beads are magnetic silica beads with a high magnetic content optimized for protein and peptide separation. Since the MagSi-WCX and MagSi-WAX act as counter-beads, we recommend that both types of beads are tested, to see which suits individual applications best.

[Proteomic use selection Guide](#)



[Protein / Peptide use selection guide](#)



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MagSi / Invitrogen™ (Dyna™) Product Replacement Guide

MagSi		Invitrogen™ / Dyna™		Note
Code	Product	Code	Product	
MD01023	MagSi-WCX	105-11D	Dynabeads® WCX	*
MD01023	MagSi-WCX	105-15D	Dynabeads® SCX	*
MD01025	MagSi-WAX	105-15D	Dynabeads® SAX	*
MD01009	MagSi-proteomics C18	102-11D	Dynabeads® RPC 18	*/**
MD01014	MagSi-proteomics C4	102-16D	Dynabeads® RPC protein	*/**
MD01003	MagSi-S 1.0	370-02D	Dynabeads® MyOne™ silane	***
MD01004	MagSi-S-COOH 1.0	650-11	Dynabeads® MyOne™ carboxylic acid	***
MD01004	MagSi-S-COOH 1.0	143-05D	Dynabeads® M270 carboxylic acid	***
MD01005	MagSi-S-NH₂ 1.0	143-07D	Dynabeads® M-270 Amine	***
MD01011	MagSi-protein A	100-01D	Dynabeads® Protein A for IP	***
MD01012	MagSi-protein G	100-03D	Dynabeads® Protein G for IP	***
MD01001	MagSi-STA 1.0	656-01	Dynabeads® MyOne™ Streptavidin C1	***
MD01001	MagSi-STA 1.0	650-01	Dynabeads® MyOne™ Streptavidin T1	***
MD01001	MagSi-STA 1.0	653-05	Dynabeads® M-270 Streptavidin	***
MD01001	MagSi-STA 1.0	112-05D	Dynabeads® M-280 Streptavidin	***

Notes:

MagSi beads are also available as [600 nm](#) particles for increased binding capacity and sensitivity and in higher standard volumes

* Discontinued by Invitrogen™

** Please also see the [MagSi protein and peptide](#) and [MagSi proteomics selection guide](#)

*** [MagSi 1.0 µm](#) beads can replace Invitrogen™ 2.8 µm and 1 µm beads in most existing applications

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