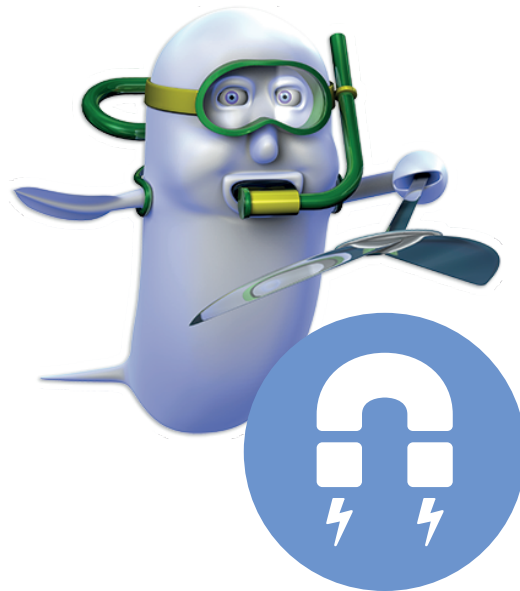




# FabRICATOR<sup>®</sup> MagIC

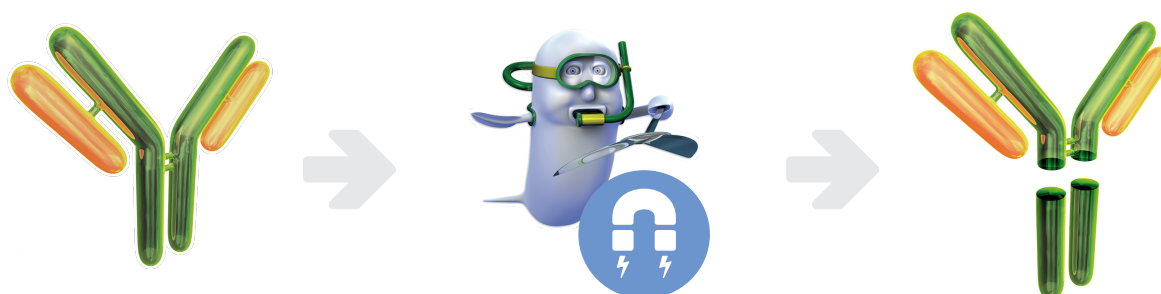


Parallel and Automated Processing of Antibodies

SmartEnzymes<sup>™</sup>



# FabRICATOR<sup>®</sup> MagIC



FabRICATOR<sup>®</sup> MagIC enables parallel subunit generation of antibodies for automated middle-level workflows

FabRICATOR MagIC contains FabRICATOR (IdeS) enzyme immobilized on magnetic agarose beads for digestion of antibodies into of F(ab')<sub>2</sub> and Fc/2 subunits in 20 min. The magnetic format enables parallel preparation of samples for the analysis of multiple antibodies in middle-level workflows with minimal hands-on time. FabRICATOR MagIC can be used in manual or automated setups for routine analysis of IgG-based biopharmaceuticals (Fig. 1).

- Y Human IgG1-4, IgG from monkey, rabbit, sheep and rat IgG2b
- ✂ CPAPELLG / GPSVF (below the hinge)
- 🕒 Over 95% digestion within 20 minutes
- 📦 No need for reducing agents or co-factors

## Key Characteristics

- ▶ Antibody subunit generation in 20 min
- ▶ Parallel processing of up to 96 samples
- ▶ Optimized for automated workflows
- ▶ Digest and reduce in a one-pot reaction
- ▶ Only requires a single pipetting step

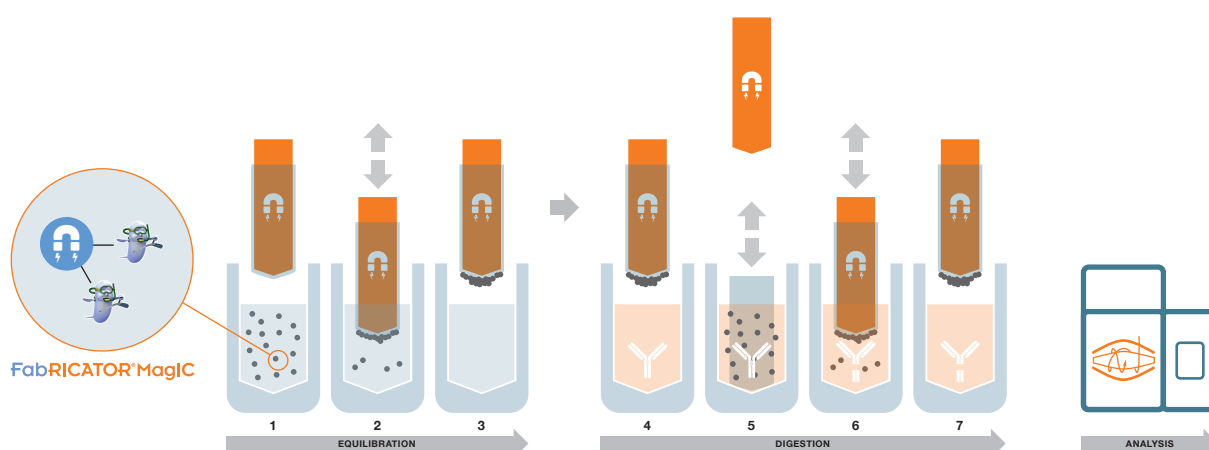
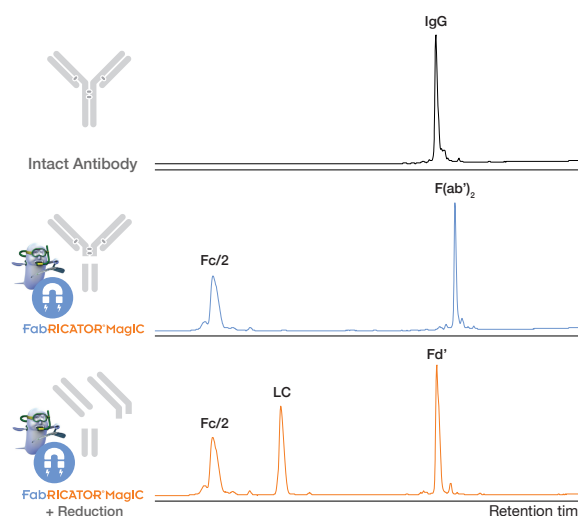


Figure 1. FabRICATOR MagIC workflow on Thermo Scientific KingFisher<sup>™</sup> Purification System. IgG, FabRICATOR MagIC and PBS are dispensed into a 96-deepwell plate according to instructions for the KingFisher workflow. FabRICATOR MagIC beads are transferred (1) to wells containing PBS for equilibration (2). The beads are collected (3), added to the antibody samples (4) and incubated with mixing for 10-20 min at 37°C (5). The beads are then collected (6) and transferred to waste wells and the pure F(ab')<sub>2</sub> and Fc are left in the sample wells (7). The trademark KingFisher is the property of Thermo Fisher Scientific.

## Automated Middle-Level Workflow

FabRICATOR MagIC generates intact F(ab')<sub>2</sub> and Fc/2 subunits and the disulfide bonds can easily be reduced using 5 mM TCEP in a one-pot reaction. The generated Fc/2, LC and Fd' fragments allow detailed analysis and monitoring of different antibodies using middle-level workflows resulting in a better resolution compared to intact level approaches. Reverse phase LC-MS analysis of the resulting subunits or fragments from an antibody processed with FabRICATOR MagIC demonstrates the complete digestion and subsequent reduction of the generated subunits (Fig. 2).

Figure 2. Analysis of a monoclonal antibody by RPLC-MS at the intact level (top), after FabRICATOR MagIC digestion (middle) or after treatment with FabRICATOR MagIC and 5 mM TCEP (bottom).



## Fast Automated Monitoring of CQAs

Using FabRICATOR MagIC for automated digestion of multiple mAbs, different CQAs such as oxidation can be analyzed. A mix of six different mAbs subjected to forced degradation was analyzed by LC-MS at the intact or the subunit level using FabRICATOR MagIC. The results show the ability to quickly detect and monitor such modifications in a complex mixture of mAbs using FabRICATOR MagIC (Fig. 3).

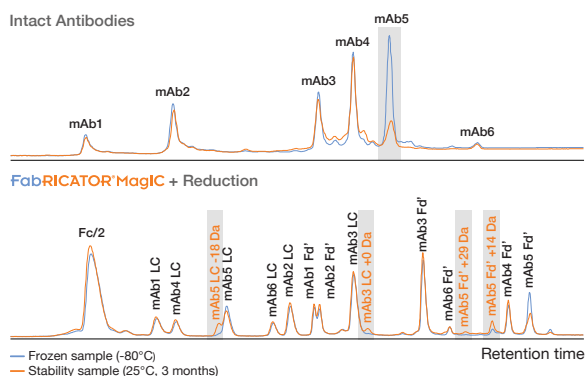


Figure 3. Analysis of tryptophan oxidation during forced degradation studies. Six mAbs were analyzed by RPLC-MS at the intact level (top panel) and after FabRICATOR MagIC with 5 mM TCEP (bottom panel). Highlighted differences between control (blue) and sample (orange).

A detailed Fc-glycan profiling was also performed on a mAb by middle-level analysis after FabRICATOR MagIC digestion and reduction with 5 mM TCEP (Fig. 4).

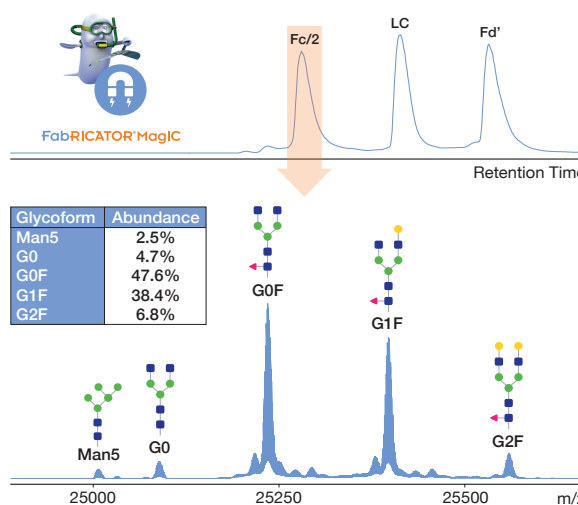


Figure 4. Analysis of Fc glycosylation by middle-level LC-MS using FabRICATOR MagIC (top) and quantification of glycoforms from a deconvoluted mass spectrum of the Fc/2 fragment (bottom).

# FabRICATOR® MagIC

	Product ID	Description	EUR	USD
	A0-FRM-024	FabRICATOR MagIC 2 mL 24 samples	550	595
	A0-FRM-096	FabRICATOR MagIC 4 x 2 mL 96 samples	1,875	1,990

## US & Canada

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