

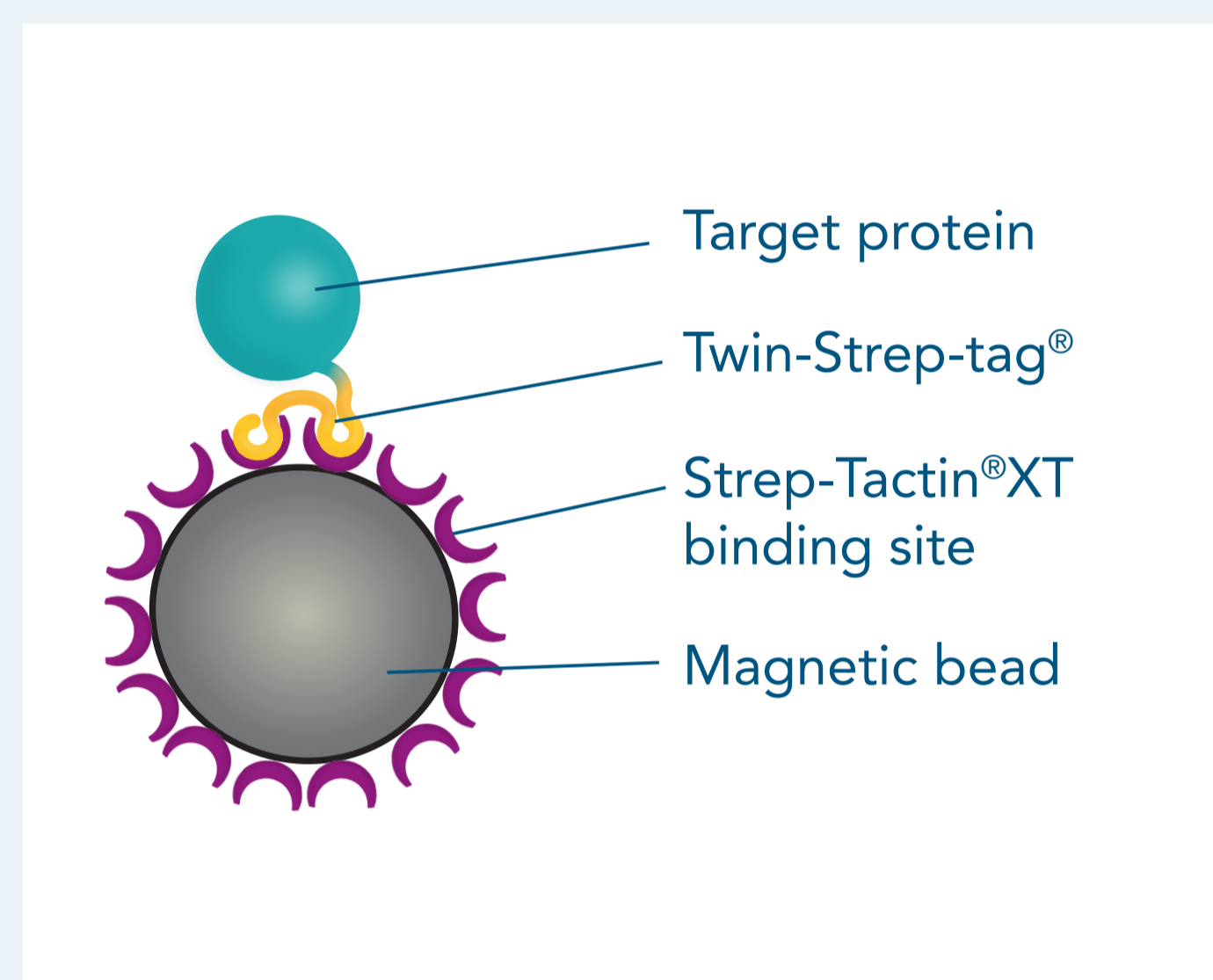
From screening to large scale purification: adaptability of MagStrep® Strep-Tactin®XT beads

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Proteins should be purified as quickly as possible and with a high yield. Numerous products on the market make this possible. However, evolving purification needs – for example handling several samples in parallel, larger or smaller sample volumes – can pose challenges. The usual consequence is a laborious, time-consuming and cost-intensive change of the purification protocol. MagStrep® Strep-Tactin®XT beads offer a simpler solution. They are magnetic beads coated with Strep-Tactin®XT. Strep-Tactin®XT is a streptavidin mutant that specifically binds Strep-tag®II and Twin-Strep-tag® fusion proteins with high specificity and affinity, yet the bond is reversible. As a result, target proteins are purified with high yield and purity. Here we show the applicability for high-throughput screening as well as small and large batch purification.

SPECIFICATIONS



- › High affinity to Strep-tag®II and Twin-Strep-tag® (nM-pM range)
- › Highly specific interaction
- › Low non-specific protein binding
- › High binding capacity (25.5 µg/µl beads)
- › Mild elution with biotin

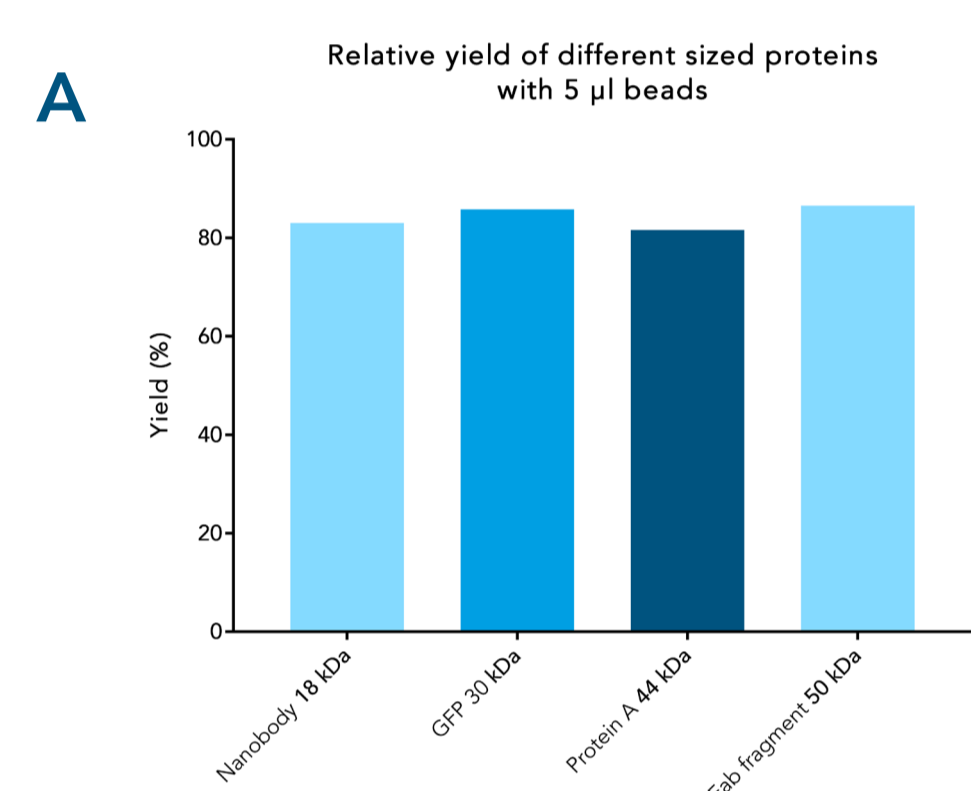
KEY FEATURES

- › Cost-efficient due to reusability
- › Parallel processing of multiple samples
- › Easily scalable for small or large applications
- › Exceptionally high purity (> 96%)
- › High target protein yield
- › Physiological purification conditions
- › Rapid protein purification protocol

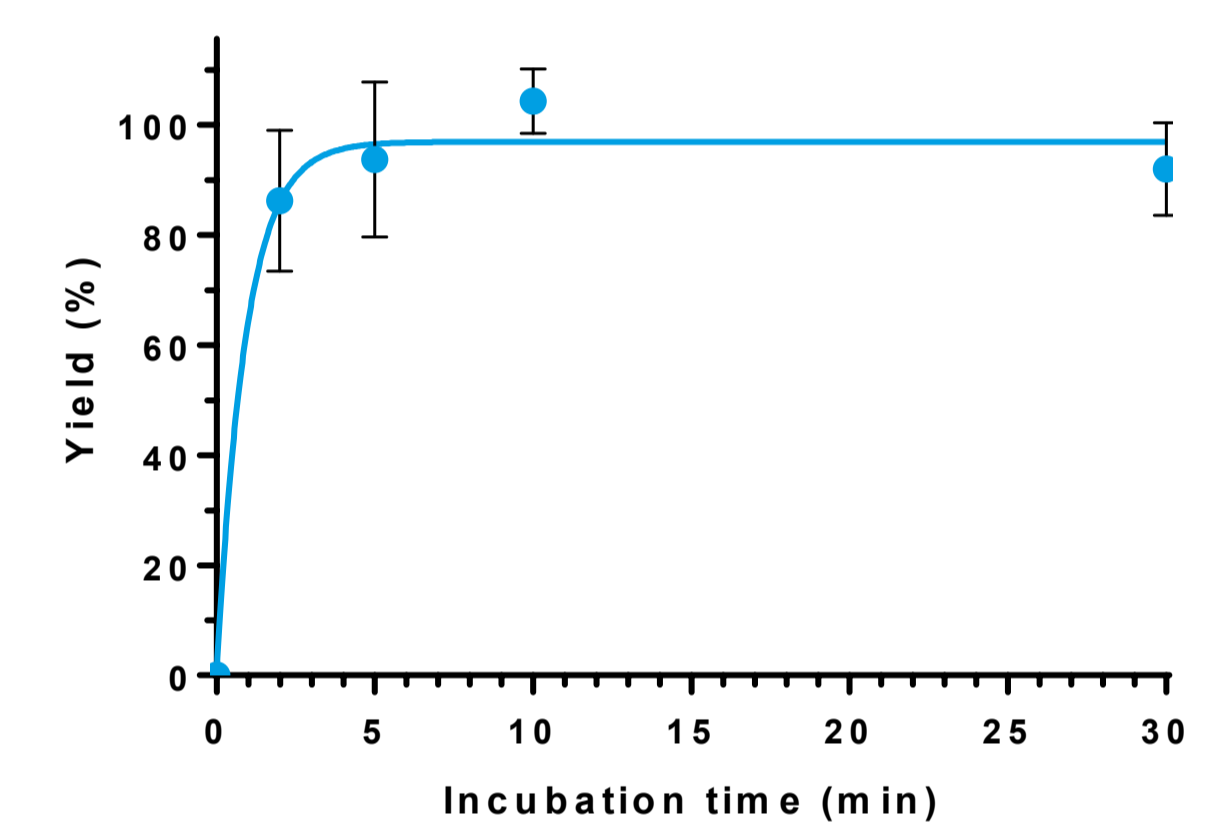
SUMMARY

MagStrep® Strep-Tactin®XT beads can be used with any laboratory equipment – only a suitable magnet is needed. They can be used for purification from small to large sample volumes as well as for high-throughput sample preparation with consistent purity, yield and processing time.

EFFICIENCY & PURITY

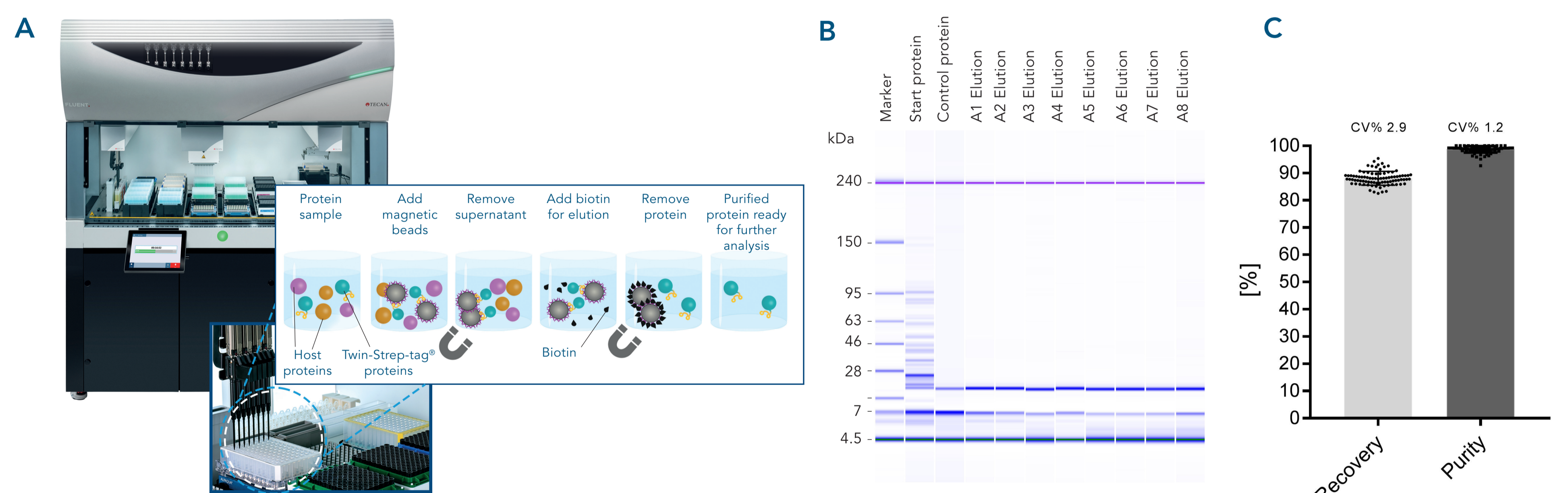


Specific capture, high yield and target protein purity. Different proteins were purified from spiked *E. coli* lysate with high recovery (> 82%) (A). Specific capture and purity is shown for αCD45 nanobody fused with the Twin-Strep-tag® as an example (B).



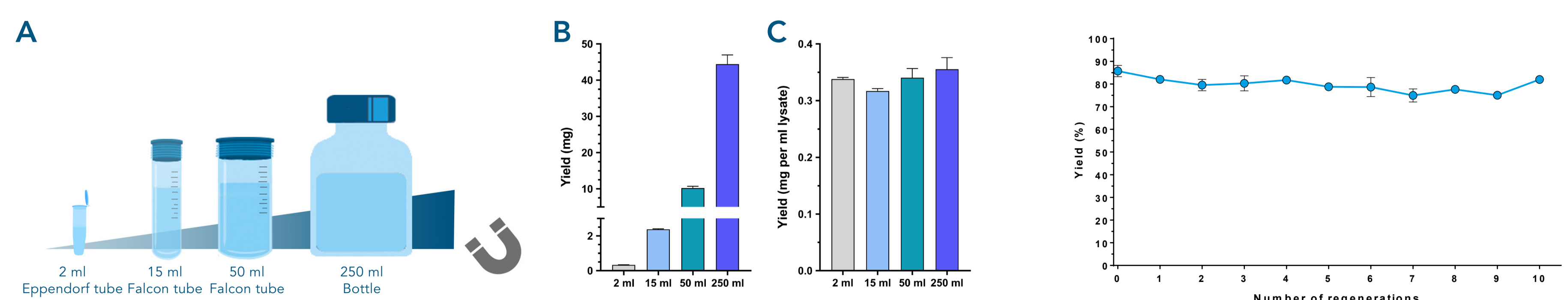
Time-saving protein purification. GFP-Twin-Strep-tag samples were incubated with magnetic beads for different periods of time. An incubation time of only 10 minutes is sufficient to purify almost the entire amount of protein.

HIGH-THROUGHPUT SCREENING & AUTOMATION



Automated protein purification with high recovery and purity. Automation and parallel protein purification with MagStrep® MagStrep-Tactin®XT beads were tested using a Tecan Fluent® (A). αCD45 nanobody fused to a Twin-Strep-tag® was purified in parallel from 88 samples. Purity was analyzed using Bioanalyzer on a Protein 230 Chip (B). Consistently high recovery and purity was achieved across all samples (C).

EASILY SCALABLE & RE-USABLE



Easy scalability of the purification process. Scalability of the protein purification with MagStrep® Strep-Tactin®XT beads was tested by purifying αCD45 nanobody fused to a Twin-Strep-tag® from different sample sizes. Separation occurred with a SepMag® A200ml biomagnetic separator (A). Scaling up the purification results in an increasing amount of isolated protein (B) while maintaining the yield per ml of lysate (C).

Fast and easy regeneration. After each purification, MagStrep® Strep-Tactin®XT beads were regenerated with 0.1 M NaOH for 2 min. Protein binding capacity remained stable for at least 10 regeneration cycles, saving costs even in large-scale applications.