Solutions
For Life Sciences

Protein Production &
Assays

Application Note

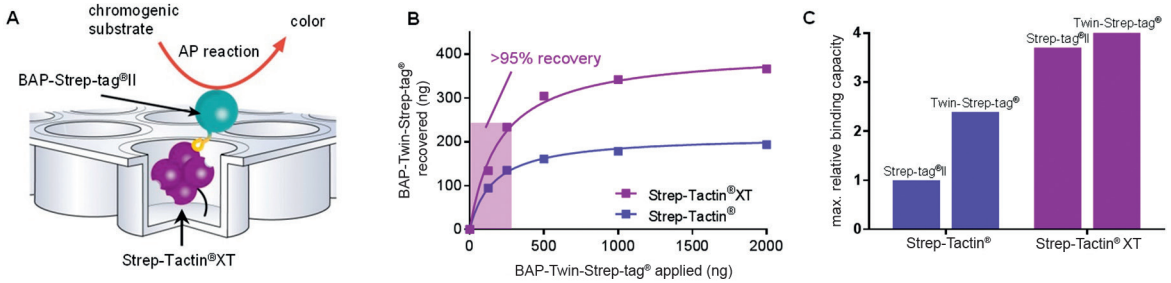
THE STREP-TACTIN®XT ASSAY SYSTEM

Specificity, sensitivity and reliability are crucial in design, construction and implementation of assays in all areas of biomedical research in academia as well as in pharmaceutical and biotechnology industries. The high diversity in assay applications ranges from quantification of cellular proteins, determination of metabolite levels or enzymatic catalytic activities to the identification and characterization of potential drug molecules.

The ready-to-use Strep-Tactin®XT coated microplates provide the power of the Strep-tag® system in a solid-phase, multi-well format. The classical 96-well plate configuration is compatible with standard multichannel pipettes, automated plate washers and plate readers allowing both manual and fully automated usage.

This ensures convenient assays and high-throughput screenings for biomolecules tagged with Strep-tag®II or with Twin-Strep-tag®. Especially, the combination of Strep-Tactin®XT with Twin-Strep-tag® is highly stable with a $T_{1/2}$ of 13 hours and an affinity in low pM range. This makes the system an efficient and elegant option for an antibody-free immobilization of proteins.

Moreover, the immobilized biomolecules are presented to interaction partners in a uniform manner, which results in reliable and highly reproducible assay formats. This minimizes non-specific binding concomitant with minimal coefficients of variation. Hence, the Strep-Tactin®XT coated microplates are a precise but cost-effective tool for high-throughput screenings and diagnostic assays.



Efficient immobilization of (Twin-)Strep-tag®II fusion proteins on Strep-Tactin®XT
(A) Schematic of the oriented binding of recombinant proteins with N-terminal or C-terminal Strep-tag® during an fluorometric microtiter plate (MTP) assay. (B) Using a fluorometric MTP assay the maximum binding capacity of Strep-Tactin®XT was examined and compared with Strep-Tactin®. Bacterial alkaline phosphatase (BAP, BAP-Strep-tag®II and BAP-Twin-Strep-tag®) was applied onto microplates each coated either with Strep-Tactin® or Strep-Tactin®XT. After washing, the amounts of bound BAP were determined demonstrating that Strep-Tactin®XT recovers significantly more protein. (C) Comparison of the relative maximal binding capacity showing the efficient immobilization of proteins on Strep-Tactin®XT.

IBA GmbH · Rudolf-Wissell-Str. 28 · 37079 Goettingen · Germany · Phone +49 551 50672-0 · Fax +49 551 50672-181 · info@iba-lifesciences.com

Version AN02-19-0002