



Solutions  
For Life Sciences



Cell Selection &  
Expansion



Protein Production &  
Assays



Custom Oligos &  
Predefined DNA/RNA



# SOLUTIONS FOR LIFE SCIENCES

IBA Lifesciences is a biotechnology company providing products and custom specific services for life science applications in academia and industry worldwide. Our product portfolio includes tools for cell selection & expansion, protein production & assays as well as custom oligos & predefined DNA/RNA.

## Company history

IBA GmbH was founded in 1996 by Dr. Herbert Stadler, a successful serial entrepreneur in the life sciences. He realized the potential of the "Strep- tag" technology for purification of recombinant proteins, which soon became popular and is now regarded as the gold standard for purification of recombinant proteins worldwide.

In 2010 a spin-off was founded to develop Strep-tag for purification of T cells for the rapidly emerging field of CAR T cell therapy. The spin-off was acquired in 2015 by a leading player in CAR T cell therapy, now part of a large pharmaceutical company. The technology with all its advantages for traceless and mild purification of T cells is expected to be part of clinical trials to treat forms of blood cancer. We kept the right for using the technology in the R&D field ("Fab-TACS®") which is now

our fastest growing activity.

## Milestones

**1996** - Company foundation.

**2003** - Introduction of Streptamer® cell isolation technology.

**2010** - Introduction of Fab Streptamer® technology.

**2016** - Launch of cell selection device FABian®.

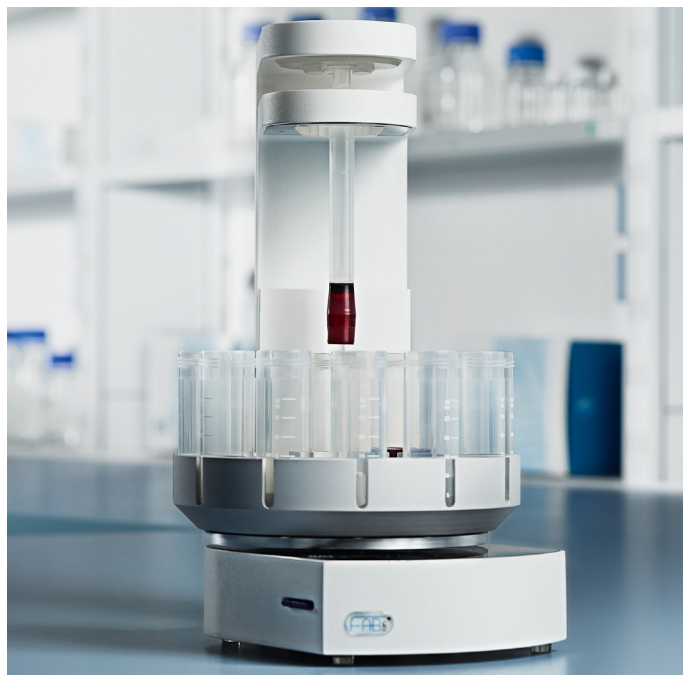
**2016** - Introduction of 3<sup>rd</sup> generation Strep-tag® system: Strep-Tactin®XT Superflow®: Twin-Strep-tag®.

**2017** - Introduction of Fab-TACS® column based cell purification.





Cell Selection &  
Expansion



# CELL SELECTION & EXPANSION

Traceless affinity enrichment for high-quality cell applications

Our Cell Selection & Expansion portfolio covers a broad range of products for high-quality cell applications.

## **Fab-TACS® technology**

The novel Fab-based traceless affinity cell selection (Fab-TACS®) technology represents an affinity chromatography system for non-magnetic isolation of immune cells. It is based on Twin-Strep-tagged Fab fragments (Fabs), which reversibly capture and release the target cells. The Fab-TACS® technology delivers label-free, non-activated cells suitable for immunological or cell biological assays.

Fab-TACS® technology perfectly combines the benefits of positive and negative cell separation and therefore allows the purification of highly viable, highly pure and label-free cells due to low affinity Fabs.

We offer an automated device, FABian® and manual chromatography columns: Fab-TACS® Gravity columns. Both allow a convenient and easy cell separation directly from whole blood, mouse spleen or other single-cell tissue suspensions.

## **Streptamer®**

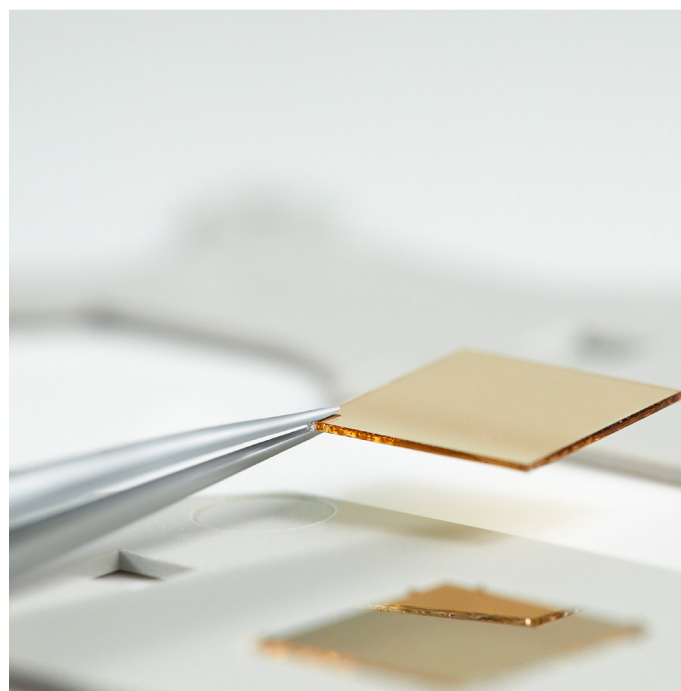
The Streptamer® technology provides fully reversible reagents for the selection of uncompromised, authentic cells. It allows different cell applications such as cell isolation, cell expansion and cell staining.

Low affinity Strep-tagged Fab fragments or MHC molecules are employed to convey the specificity to the target cell population. A high binding affinity is achieved through the binding of the Strep-tag® fragments to a multimerized Strep-Tactin®, a streptavidin derivative. The isolation, expansion or staining reagents dissociate rapidly from the cell surface, once a low concentration of biotin is added.

We offer magnetic Fab Streptamers® or MCH I Streptamers® for magnetic T cell isolation, CD3/CD28 Streptamers® for T cell expansion and MHC I Streptamers® for antigen-specific CD8<sup>+</sup> T cell staining.



## Protein Production & Assays



# PROTEIN PRODUCTION & ASSAYS

One affinity tag for all protein applications

The Strep-tag® technology is our proprietary and versatile protein purification, detection and immobilization platform. It is one of the most widely used systems for affinity purification, providing exceptionally pure proteins.

## **Strep-tag® technology**

Our technology for recombinant protein production is based on one of the strongest non-covalent interactions in nature: the interaction of biotin to streptavidin. The system includes two affinity tags: Strep-tag®II and Twin-Strep-tag®. These peptide sequences exhibit intrinsic affinity towards Strep-Tactin® and Strep-Tactin®XT, two specifically engineered streptavidin variants.

By exploiting the highly specific interaction, Strep-tagged proteins can be isolated in one step from crude cell lysates in unparalleled purity. Because the Strep-tag® elutes under gentle, physiological conditions it is especially suited for generation of functional proteins e.g. enzymatic proteins. Furthermore, these mild purification and elution conditions make them suitable for structural and functional investigations, protein-protein interaction studies, ligand-receptor investigations or even separation of living cells for re-culturing processes. The

system is suitable for a large variety of protein classes, e.g. metallo proteins, membrane proteins, fragile protein complexes with multiple subunits and any other protein class.

In addition, the near covalent affinity of Twin-Strep-tag® to Strep-Tactin®XT can be used to efficiently immobilize proteins for assay development. This makes the system to a universal platform and superior to all other affinity systems: one tag can be used for expression, purification, detection and immobilization efficiently.





Custom Oligos &  
Predefined DNA/RNA





# CUSTOM OLIGOS & PREDEFINED DNA/RNA

Tailored oligos for specialized nucleic acid applications

In the broad field of oligos, we concentrate on specialized, modified, "tricky" to produce nucleic acid products and oligonucleotides. We are able to fulfill the most unique requests of our customers due to continuous research and development of new modifications that cannot be found elsewhere.

## Custom DNA & RNA

We offer DNA oligo synthesis and DNA probes for different purposes as well as high quality RNA synthesis and RNA products with high purity and biological activity.

## Fluorescent labels

Our customers can choose from more than 200 fluorescent labels, which cover the entire spectrum from ultraviolet to infrared. Click chemistry synthesis allows us to produce completely new dye combinations at very high labeling densities.

## Custom aptamers

Aptamers are DNA or RNA (or peptide) molecules that can bind to specific targets, for example proteins, small molecules or toxins. Due to their specificity, high affinity and low immunogenicity, aptamers have been widely

used in medical and industrial fields. We produce the desired aptamers via chemical synthesis with high quality and low batch-to-batch variation. A large selection of modifications and fluorescent labels are also available for our customers.

## Backbone modifications

For antisense applications, we offer nuclease-resistant phosphorothioates (PTOs) for DNA and RNA. Introduced at either the 5'- or 3'-end of an oligo, phosphorothioates can inhibit exonuclease degradation.

## Photo-regulation of modifications

We use UV or visible light to control reactions with adobenzene modification. This process is fully reversible and does not decompose or induce undesirable side reactions.



# WORLD-WIDE DISTRIBUTORS

In addition to direct sales, from the very beginning IBA has distributed its products via a growing network of distribution partners. Over the past two decades, our distribution partnerships have grown into a worldwide distributor network making our products available in over 40 countries across 5 continents. Together with

the high quality of IBA products this ensures the best possible customer experience. Below is a selection of our partners.



## **IBA Lifesciences**

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