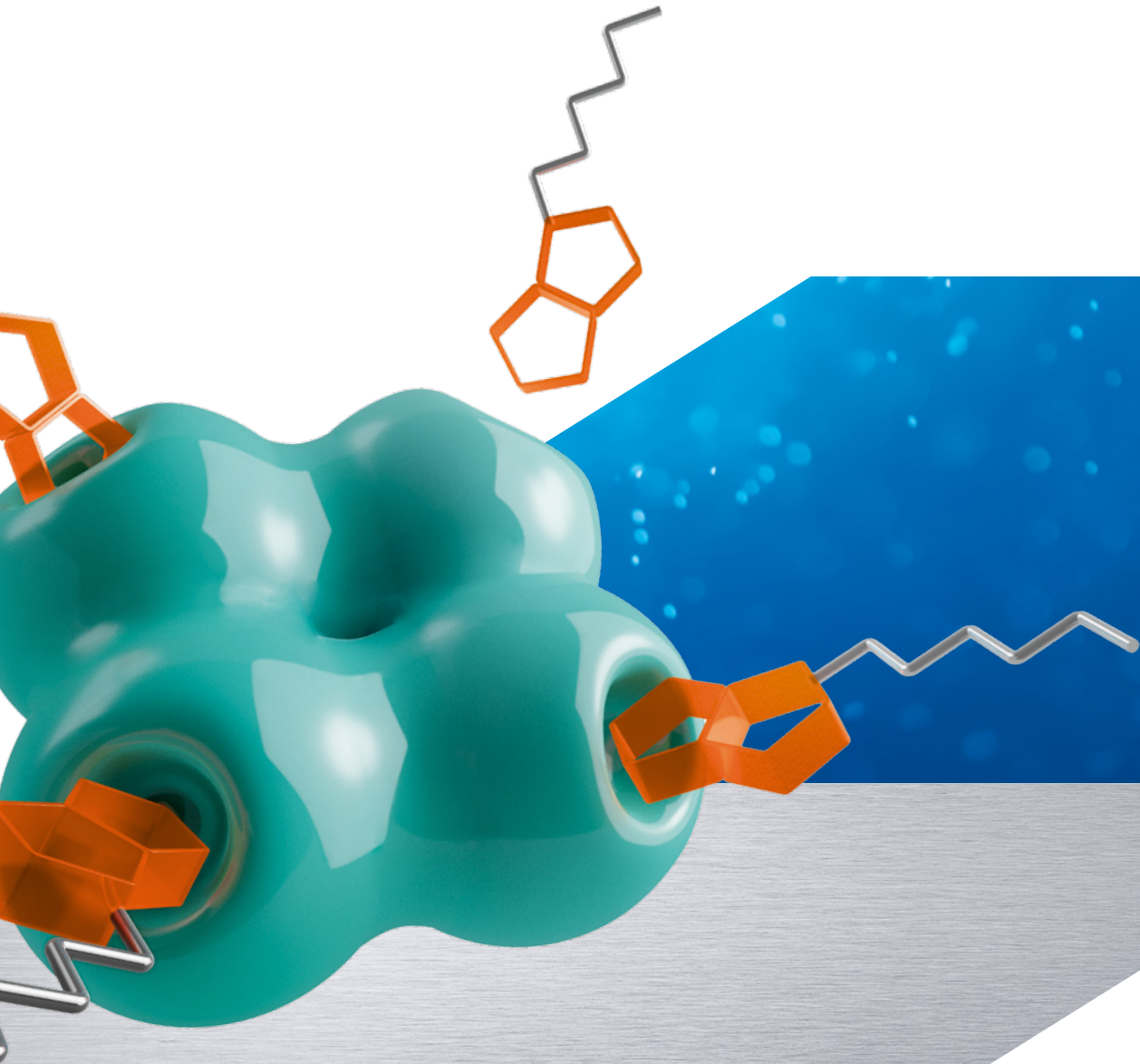


Streptavidin/Biotin System
for the Diagnostics Industry



Benefit from the pioneers' expertise

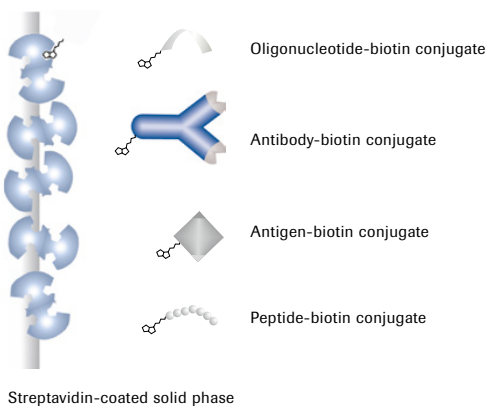
Manufacturing excellence sets industry standards

Streptavidin/Biotin applications

Streptavidin is a core component of countless immunoassays to label or immobilize analytes. Recombinant Streptavidin is a suitable tool for enabling universal test systems in immunology and molecular diagnostics. Stringent quality control processes ensure high biotin affinity and robustness to pH variation, detergents, and ionic strength. In addition, streptavidin-biotin's low nonspecific interactions improve signal-to-noise ratio.

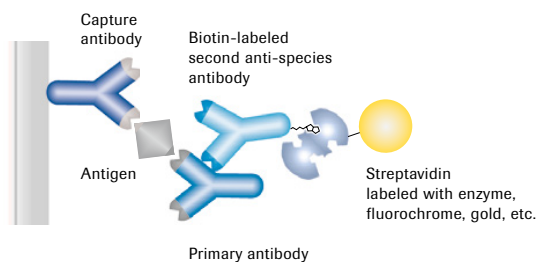
Solid phase technology

Recombinant Streptavidin is suited for coating solid phases, such as microplates, beads, and microarrays.



Universal detection systems

Due to its universal concept, the streptavidin/biotin system can be applied to various detection systems, including microscopy, electron, light, and fluorescence microscopy, cytofluorography, and photometry.



Roche sets industry standards with recombinant streptavidin

Roche CustomBiotech pioneered the development of recombinant streptavidin and is now one of the world's largest manufacturers of this protein. We continue to set industry standards through meaningful product innovation. For example, Streptavidin Mutein Sepharose includes a targeted mutation that makes streptavidin-biotin binding reversible, enabling purification of biotinylated compounds with high recovery and purity.

Recombinant Streptavidin from *Streptomyces avidinii*, expressed in *E. coli*:

- High biotin-binding capacity (≥ 17 U/mg protein)
- Protease-free (≤ 0.001 U/mg)

Streptavidin Mutein Sepharose

The Sepharose matrix provides a recombinant Streptavidin Mutein with reduced binding affinity to biotin immobilized onto cross-linked agarose beads in a highly stable form.

Streptavidin products characteristics

| | Streptavidin, recombinant | Streptavidin Mutein Sepharose |
|-------------------------|--|--|
| Catalog number | 11 520 679 103 | 03 314 731 103 |
| Pack size | custom fill | 0.2 l (bulk); 10 ml (samples) |
| Molecular weight | ≥52.000 | ≥52.000 |
| Biotin binding capacity | Streptavidin + 4 biotin streptavidin (biotin) ₄ The formation of the complex is measured at 233 nm | Streptavidin + 4 biotin streptavidin (biotin) ₄ The formation of the complex is measured at 233 nm |
| pH stability | 5.0 – 9.0 | |
| Working solution | 10 mg lyophilizate / ml water | agarose gel suspension (50%), ready to use |
| K _D | 10 ⁻¹⁵ mol/l | 10 ⁻⁹ mol/l |

Biotinylating reagents

Ideally, the Streptavidin solutions shown above are combined with Roche CustomBiotech Biotin products. Activated Biotin esters are suitable for chemical coupling reactions with amino groups. If needed, an amino caproic acid spacer minimizes steric hindrance in coupled biotinylated macromolecules.

| | Biotin-O-Su | Biotin-X-OSu |
|----------------|---|---|
| Catalog number | 10 734 250 103 | 11 003 933 103 |
| Pack size | custom fill | custom fill |
| Nomenclature | d-Biotin-N-hydroxysuccinimide ester | D-biotinoyl-ε-aminocaproic acid-N-hydroxysuccinimide ester |
| Formula | C ₁₄ H ₁₉ N ₃ O ₅ S | C ₂₀ H ₃₀ N ₄ O ₆ S |
| CAS | 35013-72-0 | 72040-63-2 |

Interference elimination of antibodies to Streptavidin

As a specific blocker for antibody-based Streptavidin directed interferences derived from patient sera, the Streptavidin rec. inactive, poly can be easily integrated into your immunoassay reagents. Test accuracy and overall kit performance are improved.

| Product | Pack size | Catalog number |
|----------------------------------|---|-----------------------|
| Streptavidin rec. inactive, poly | custom fill and / or defined pack sizes: 400 mg, 2000 mg | 11 922 122 103 |

Streptavidin R-Phycoerythrin conjugates for ultrasensitive detection

Conjugated reporter dyes such as Streptavidin R-Phycoerythrin are well established for Luminex® xMAP® Assay Kits or array-based applications due to their proven spectral characteristics. Their dedicated and reproducible design ensures high performance multiplex assays using antibodies, receptors, peptides, and oligonucleotides.

| | Streptavidin R-Phycoerythrin LumiGrade Ultrasensitive Reagent | Streptavidin R-Phycoerythrin Phycoerythrin LumiGrade Reagent |
|----------------|--|--|
| Catalog number | 05 351 693 103 | 05 065 925 103 |
| Pack size | custom fill | custom fill |
| Appearance | Reddish solution (c =1 mg/ml) in potassium phosphate, 50 mmol/l; pH 6.8, sodium azide, 0.05% | Reddish solution (c =1 mg/ml) in potassium phosphate, 50 mmol/l; pH 6.8, sodium azide, 0.05% |

Regulatory disclaimer

For further processing only.

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