

Streptavidin Coating

NEXTERION® Slide HS



Introduction

NEXTERION® Slide HS is especially developed for binding all types of biotinylated molecules.

Streptavidin is a protein purified from *Streptomyces avidinii* that binds biotin very tightly. This ability is widely exploited in molecular biology applications, such as the purification of proteins. Biotin-tagged molecules can be selectively bound to streptavidin molecules immobilized on a solid support. This feature can also be used for microarray applications, where Streptavidin-coated glass microscope slides represent the solid support.

NEXTERION® Slide HS is manufactured using high quality, low auto-fluorescence borosilicate glass. The specially developed two-stage coating process produces a very high density, as well as an extremely uniform coating of streptavidin molecules. The resulting surface has a very high binding capacity combined with a low signal variance across a single slide, between slides and between batches. These factors make Slide HS an ideal surface for developing diagnostic applications.

Type of coating	Immobilization method	Typical probes	Ordering information			
			NEXTERION® product	Barcode option	Item number	Slides per pack
Streptavidin	Non-covalent binding via biotin	Biotin tagged probes as: <ul style="list-style-type: none">• Proteins• DNA• Chromosomes• Cells	Slide HS	No barcode, corner orientation mark is applied	1087816	25

Key product features

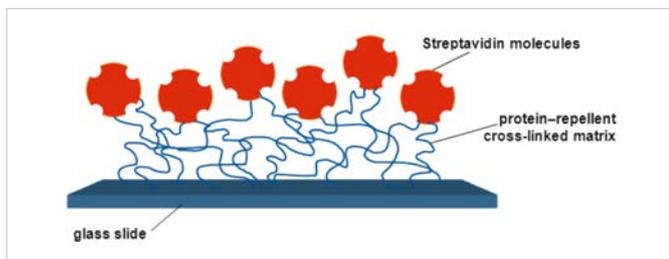
- Highly specific binding of biotinylated molecules
- Low non-specific binding
- High binding capacity
- Low intra-slide signal variance
- High density and uniform coating of streptavidin molecules

Suitable Probe Types

- All molecules that can be biotinylated

Immobilization chemistry

The NEXTERION® Slide HS coating consists of a three-dimensional thin film polymer base layer (H) and a top layer of highly uniform covalently linked streptavidin (S). First a protein-repellent, cross-linked, three-dimensional matrix is applied to the glass slide. Then a layer of Streptavidin molecules is covalently linked to the base coating. The underlying three-dimensional thin film polymer coating shows a very low non-specific binding, significantly reducing the background signals. This, in combination with the high binding capacity of the streptavidin, offers superior signal-to-noise ratios.



Coating Chemistry of NEXTERION® Slide HS

Only one side of NEXTERION® Slide HS is coated, which is indicated by a corner mark. A protective coating is added after manufacturing to protect the activity of the streptavidin layer. This coating must be removed prior to use.

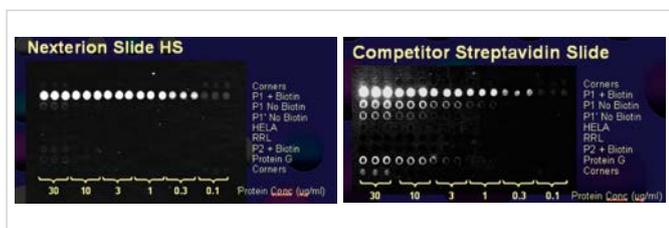
Product details

Spot Morphology

NEXTERION® Slide HS produces excellent spot morphologies and consistent spot sizes for microarray applications based on biotinylated molecules over a wide range of probe concentrations.

Superior specificity for biotin ligand

The NEXTERION® Slide HS surface offers a superiorly selective surface for biotin. In addition, the innovative multi-layer structure helps to stabilize biotinylated bio-molecules.



Biotinylated and non-biotinylated proteins were immobilized to NEXTERION® Slide HS and to a competitor slide.

Superior CVs

The innovative multi-component coating chemistry of NEXTERION® Slide HS, combined with SCHOTT's high quality manufacturing process, produces a surface that gives highly reproducible results.

Excellent non-specific binding characteristics

NEXTERION® Slide HS contains a polymeric cross-linked matrix that was designed to inhibit non-specific binding, and to reduce the risk of high background fluorescence in protein assays.

Superior signal-to-background ratios

The high binding capacity of NEXTERION® Slide HS, combined with specific and selective binding, plus exceptionally low non-specific binding delivers consistently superior signal-to-background ratios essential for diagnostic applications.

Packaging and Storage

The streptavidin layer on Slide HS is very sensitive to elevated temperatures. It is therefore necessary to ship the product in a frozen state with dry ice. The product must immediately be put into a freezer upon arrival. Repeated freeze and thaw cycles should be avoided.

NEXTERION® Slide HS is packaged in chemically stable plastic boxes and sealed under an inert atmosphere. To protect the activity of the streptavidin layer, a protective coating is added on top of the reactive coating prior to packaging. This layer must be removed before printing. The slides are stable for 6 months in the sealed packaging when stored at -20°C .

Format

NEXTERION® Slide HS is available in packs of 25 slides with an orientation mark to identify the printing side.

Protocols

Separate NEXTERION® Slide HS handling guidelines are developed and can be provided.

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