# SCHOTT NEXTERION® Strepdavidin Coating (HS)

Protocol

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# SCHOTT NEXTERION® Strepdavidin Coating (HS)

Protocol

## 1. Introduction

Store at -20° C.  Prior to use, allow the package to equilibrate at room temperature before opening.

### Product Overview

NEXTERION® Slide HS is manufactured using the highest quality glass (standard dimensions of 75.6 mm x 25.0 mm x 1.0 mm). The slide coatings consist of a three-dimensional thin film polymer base layer (**H**) and a top layer of highly uniform covalently linked streptavidin (**S**). NEXTERION® Slide HS is ideally suited for the directed immobilization of biotinylated probes as proteins, DNA, chromosomes, or cells. The underlying three-dimensional thin film polymer coating has a very high resistance to 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. Only one side of the slide has been coated. To identify the coated side: In the correct orientation, the corner orientation mark will be located in the lower left corner and samples should be printed on the side facing upwards (Fig. 1). The chemically reactive and homogeneous spotting area is within an area of 72 mm x 22 mm, so avoid printing too close to the edge of the slide (<3 mm) (Fig. 2). Optional barcodes are available on request.



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Fig. 1: Diagram of the NEXTERION® Slide HS with corner orientation mark

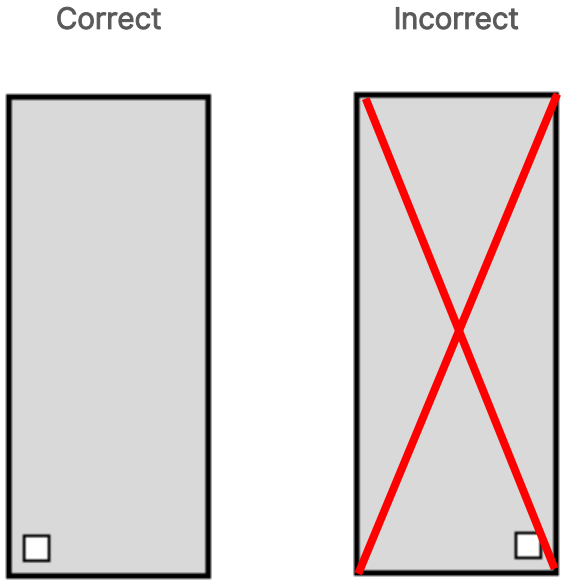
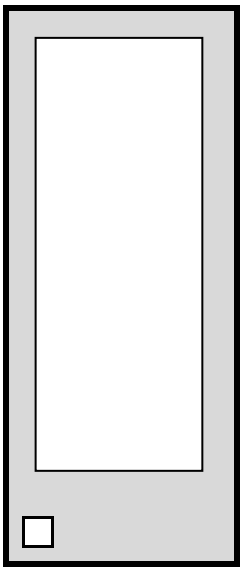



Fig. 2: The streptavidin reactive area is 72 mm x 22 mm region as shown in the diagram below.





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## 2. Shipment, storage, and handling

**The streptavidin layer on Slide HS is very sensitive to temperature changes:** It is therefore necessary to ship the product in a frozen state with dry ice. Please take care that the product is immediately put into a freezer upon arrival. Please avoid repeated freeze and thaw cycles.

1. NEXTERION® Slide HS is manufactured, and vacuum packed under Class 100 clean room conditions.
2. Slide HS has a shelf life of 6 months from the date of production when stored at -20 °C. Use the slides before the expiry date.
3. To protect the streptavidin layer, the slides are dipped in a trehalose solution prior to packaging. This layer must be removed before printing (see section 3).
4. The packaging should be allowed to equilibrate completely to room temperature prior to opening. After opening, seal any unused slides in a re-sealable pack with desiccant and re-freeze immediately.
5. Avoid direct contact with the surface of the slides to minimize contamination and abrasion of the coated surface. Always wear gloves and hold the slide by the edges.
6. NEXTERION® Slide HS should be opened in a clean environment to avoid the build-up of particulate debris on the coated surface.
7. NEXTERION® Slide HS is for research use only, not for in vitro diagnostic use.

## 3. Removal of the trehalose protective coating

Try to ensure that the printed slides are processed as quickly as possible at least within 8 hours of printing. If possible, print at 4 °C. Avoid harsh processing conditions such as high temperature, high or low pH that might denature the streptavidin. Otherwise, internal calibrators should be used to guarantee data comparability.

1. The trehalose layer should be removed just prior to printing.
2. Place slides to be printed in a slide rack and incubate in a PBS buffer (4 °C – 20 °C) for 1 min.
3. Dry the slides by centrifugation (200 x g for 5 min) to avoid any water stains on the slide surface.



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## 4. General printing guidelines

1. Use print buffer that have a pH between 7.0 and 7.5, for instance, phosphate buffers (e.g. PBS) or SSC. Detergents may be added to the print buffer, if the spot size is too small (SDS (DNA) or Tween® 20 (proteins)).
2. Due to the superior S/N ratios, even low protein or DNA concentrations could be used for printing. Typical ranges are 50 - 1000 µg/ml for proteins and 0.1 - 1 mg/ml for DNA.
3. If printed arrays should be stored for a longer time before processing with target solution it's recommended to stabilize streptavidin – probe interaction by dipping the slides in 1% saccharose solution and drying in cool dry place.
4. Otherwise, dry slides by centrifugation (200 x g for 5 min) before starting the washing and blocking.

## 5. General processing recommendations

1. The printed arrays can be blocked with solutions containing BSA or casein (useful concentration could be 0.1 mg/ml) in a phosphate or SSC buffer. Adjust the pH to between 7.0 and 7.5 and use cold solutions (4 °C - 20 °C).
2. Do not allow slides to dry between washes and protect from light whenever possible.
3. Protect the array from light, dust, and handling until ready for scanning.