

nunc™



NUNC MICROARRAY SLIDES

Glass
Protein Binding

INSTRUCTION MANUAL

Version 1.0

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Introduction

Using its expertise in surface chemistry Nunc has developed a modified polymer surface for glass slides for protein microarray printing. The activated surface is intended for passive adsorption of proteins.

The Nunc Protein glass substrate is made using etching and softplasma deposition creating an exceptionally uniform surface.

The hydrophobic surface minimises spreading ensuring a clear, compact printed spot.

The activated surface is produced under controlled conditions resulting in slides with a dust free and uniform surface. All batches are tested to ensure a well-defined surface.

Proteins are a heterogeneous group of molecules differing both in size and hydrophilic or hydrophobic interaction, which can result in non-homogeneous binding properties.

Nunc Protein Slides are all bar-coded facilitating orientation and ensuring 100% traceability.

Note:

Only the side with the affixed label has been treated for adsorption.

1. Handling and Care

Please follow these guidelines to ensure optimal performance:

Nunc Protein slides have been carefully processed and packed in slide mailers. Avoid direct contact with the printing area, as this may influence binding and lead to a high background fluorescent signal.

Use the Nunc Protein slides in a clean environment. Particulate contaminants on the slide surface may jeopardize the array being printed.

The surface is pH stable within the range pH 3 – pH 11.

Please note: Due to signal intensity achieved with a laser scanner, it is advisable to modulate the scanning image by decreasing the PMT and/or the laser power.

Powder free latex gloves are recommended when handling Nunc Protein MicroArray Slides.

Avoid the use of coloured inks of permanent markers as they may interfere with fluorescent images.

If you use air-spray for drying or cleaning slides before scanning- be sure to use sprays that do not contain fluorescent propellant.

We recommend opened packages of Nunc Protein slides to be stored desiccated at room temperature (20 - 25°C) until use.

2. Adsorption of Antibodies to Nunc Protein MicroArray Slides

Many commonly used procedures for printing and blocking will provide good results with Protein MicroArray slides.

The following protocol is kindly provided by Rachel Kahn, Biotechnological Institute and is recommended by Nunc.

2 A. Prior to Spotting

Use PBS with 20% glycerol as spotting solution.

2 B. Printing and Adsorption

- 1) Spot antibodies with split or solid pins on Protein substrate.
- 2) Incubate slide at 4°C overnight in a humidity saturated chamber. This is prepared by adding as much solid sodium chloride to water as needed to form a 1 cm deep slurry in the bottom of a plastic container with airtight lid. This forms a chamber with a relative humidity of approx. 75%.

2 C. Blocking and Washing

- 1) Quickly rinse slide in PBS/0.2% Tween 20 to remove excess antibody. Use magnetic stirring at full speed during the rinse to avoid creating “rocket” shaped spots.
- 2) Block 30 min with 5% skimmed milk powder in PBS/ 0.2 % Tween 20.
- 3) Wash 1 x PBS/0.2% Tween 20.

3. Incubation and Washing of Primary Antigen

- 1) Incubate antigen in PSB/0.2% Tween 20 for one hour at room temperature.
- 2) Wash 3 x PBS/0.2% Tween 20, followed by 2 x PBS.

Note:

You can mount LifterSlips around individual arrays. This will allow incubation of small volumes of e.g. antigen.

4. Incubation of Secondary Antibody

- 1) Incubate secondary antibody in PBS/0.2% Tween 20 for one hour at room temperature.
- 2) Perform this incubation in the dark as the Cylabel is light sensitive.

5. Washing

- 1) Wash 3 x PBS/0.2% Tween 20.
- 2) Wash 2 x PBS.
- 3) Dip slides in H₂O.
- 4) Dry slide by centrifugation (800 x g for 3 minutes) or blow dry using compressed N₂.
To avoid the occurrence of a fluorescent haze do not air dry the slide.

Note:

All wash, blocking and rinse steps are carried out in a slide holder with 100ml buffer and magnetic stirring. All washes are approximate 5 minutes.

6. Scanning

NUNC PRODUCTS FOR MICROARRAY APPLICATIONS

Cat. No.	Product
230313	MicroArray Slides, Glass, Oligo Binding
230311	MicroArray Slides, Glass, Protein Binding
230379	MicroArray Slides, Black Polymer, Aminosilane
230389	MicroArray Slides, Clear polymer, Aminosilane
230381	MicroArray Slide, Black Polymer, NucleoLink™
230351	MicroArray Slide, Clear Polymer NucleoLink™
230302	MicroArray Slide, Clear Polymer, MaxiSorp™
230305	MicroArray Slide, Black Polymer, MaxiSorp™
375357	Cryotubes 1.0ml
442587	Microwell Plate™ V96, Polypropolene
265196	384 Well Plates, clear
166508	NunclonΔ Dish, 500 cm ²
168281	NunclonΔ Dish, 145 cm ²
150350	NunclonΔ Dish, 56.7 cm ²
373660	Centrifuge Tubes, 50 ml
366036	Centrifuge Tubes, 15 ml
250865	GeNunc™ Tubes, 0.2 ml
270971	GeNunc™ Tubes, 0.5 ml
330050	Scanner for USP



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