



**BIOTOOLS**

BIOTOOLS B&M LABS.S.A.

# **PROTEOGENE DNA SPOTTING BUFFER**

**TECHNICAL BULLETIN  
(Cat. No. 71.121)**

## 1. PRODUCT DESCRIPTION

The Proteogene DNA Spotting Buffer is a ready to use printing solution optimised for spotting of cDNA molecules, PCR products and oligonucleotides (long and short) on amino-surface slides.

Proteogene DNA Spotting Buffer contains a patented mixture<sup>1</sup> of stabilizing agents, viscosity enhancers and buffering components which increase the quality of DNA microarrays by improving the surface tension and DNA attachment to the coated glass substrates. The proprietary formulation of the spotting buffer provides a reduced evaporation and improves spot's morphology and uniformity.

It is an excellent solution for dissolving and for stabilising oligonucleotides as well as dsDNA, thus DNA suspended in Proteogene DNA Spotting Buffer may be kept for prolonged storage (at least 1 year at -20°C).

The general features of this spotting solution are:

- Suitable for contact and non-contact DNA printing technologies
- Small spot size (130-150 µm diameter)
- Optimal spot morphology and homogeneity
- Low spot to spot variation
- Stabilises DNA samples for prolonged storages (in solution or already printed)
- Easy wash away
- No background fluorescence

<sup>1</sup>Patent PCT/ES2008/070072

## 2. PRODUCT CONTENT AND STORAGE

Proteogene DNA Spotting Buffer is stable at normal laboratory temperature for at least one year.

Suspended DNA in Proteogene Spotting Buffer is stable during at least one year at -20°C.

DNA printed in slides stored at room temperature in a desiccator is stable for at least one year.

Cat. No.	PRODUCT	VOLUME
71.121	Proteogene DNA Spotting Buffer	25 ml

## 3. PROTOCOL FOR DNA PRINTING

*Quantify the concentration of oligonucleotides or PCR products spectro-photometrically as well as electrophoretically. Print the slides according to the manufacturer's instructions. If reduced concentrations of DNA are used the printed spot will not reach an optimal signal, whereas high concentrations produce spots with a comet morphology or smear.*

- 1.- Dissolve the lyophilised oligonucleotides (10-30 µM) or PCR product (50-400 ng/µl) in Proteogene DNA Spotting Buffer. Mix thoroughly by pipetting up and down several times.
- 2.- Transfer the DNA solutions to a 96 or 384 spotting plate. Centrifuge the plates at 2000 rpm for 5 minutes.
- 3.- Set up the array spotter and print slides. After printing, the slides should be left at room temperature for 24 hours to allow an uniform deposition of DNA.
- 4.- Immobilize the DNA samples to the surfaces by heating or UV crosslinking treatment (according to the instructions of the used slide). Store the printed slides in a desiccator at room temperature until use.

## 4. TROUBLESHOOTING TIPS

- ***Irregular spot morphology***

***Not optimal environmental conditions:*** check humidity and temperature parameters of the spotter.

***Deformed or dirty pins:*** inspect the pin and clean it or replace the pin if needed.

***Contamination in spotted DNA:*** DNA material must be free of any contaminants interfering with the spotting technology.

***DNA not effectively immobilised:*** check the immobilisation protocol.

- ***Comet tailing phenomena or smeared spots***

***Too much DNA:*** repeat printing with less concentration of DNA.

***DNA not effectively immobilised:*** check the immobilisation protocol.

- ***Low signal***

***Low DNA concentration:*** check concentration of DNA.

***Non effective binding of DNA to the slide:*** check the immobilisation protocol.

***Problems with the labeling or hybridization process.***

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