# Technical Bulletin

## sciDRY for aspiration of sample residues

Introduction:

sciFLEXARRAYERS are used to deliver tiny droplets onto a variety of structures i.e. slides, wells in micro titer plates biosensors, nitrocellulose sheets, etc. So far, it was only possible to deliver samples to a substrate. SCIENION's sciDRY is a device designed to aspirate sample residues, MALDI matrix solution, cell culture media, etc. either from a flat surface or from inside a well or three dimensional structure. It is compatible with biological samples as well as organic solvent resistant. With the sciDRY it is not only possible to precisely dispense droplets but also aspirate.

Setup:

The new sciDRY, a device equipped with an exchangeable Teflon® tip that is lowered into or onto the substrate, without touching it (Fig. 1).

Figure 1. sciDRY tip

In a second step, an adjustable vacuum is activated which will suck up the media and collect it in a bottle. Both the strength of the vacuum and the height of the suction tip are freely adjustable. The lowering and raising action is performed by a pneumatics-driven plunger. The lowering / raising speed is variable. The whole system is controlled by the sciFLEXARRAYER software and the action can be programmed as a task that can be included in a run.

Application:

Cell culture: In some cases, it is crucial to aspirate a supernatant in order to expose cells prior to spotting new sample. For example in the field of targeted siRNA spotting, the first step would be to aspirate the cell medium in order to expose the cells. Afterwards, a mixture of siRNA and Lipofectamine® can be spotted precisely on top of the cells that you want to transfect. This procedure saves a lot of highly expensive transfection solution.

MALDI matrix: In the first step, various protein samples will be spotted on a MALDI target plate (Fig. 2). After drying, the protein spots are then treated with an excess of MALDI matrix (i.e. a-Cyano-hydroxycinnamic Acid). This excess matrix needs to be aspirated to minimize background signal (Fig. 3).

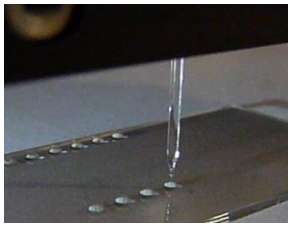

Figure 2. The sciDROP PICO nozzle dispenses MALDI matrix.

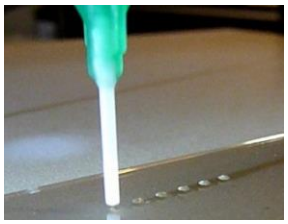

Figure 3. The sciDRY tip aspirates excess MALDI matrix

Microfluidic: Micro channels need to be flushed prior to filling with capture molecules or coagulating agents.

Conclusion:

The sciDRY is a unique add-on that will give your sciFLEXARRAYER additional capabilities and flexibility in handling your liquids.

Interested? Please contact us, we will be happy do offer you a free demo.

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