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Nanolitre Liquid Dispensing – Non Contact Piezoelectric Micropipetting Technology

The new Nano-Plotter™ NP2.1 is the perfect solution for immobilising low volumes of DNA, proteins and cell lysates on any surfaces. Biosensors and micro arrays can be printed with unsurpassed ease and precision using non-contact piezoelectric micropipetting technology with no impact on sensitive surfaces. Volumes as low as 0.1 nL can be dispensed as perfectly spherical droplets.

Applications:

- Semi-automatic drug screening using adherent cells or tissue slices in the microscope.
- Viability tests (eg. for cancer cells) and other cell based tests.
- Laser manipulation of cells in the flow: DNA transfection and “optical stretcher” (measurement of deformability of cells for cancer diagnosis and to isolate stem cells).
- Cell adhesion tests using prepared surfaces.
- Interaction of cells with immobilised proteins, oligosaccharides, lipids and other ligands.
- Single molecule detection using fluorescent biomolecules (fluorescence correlation spectroscopy in-the-flow, receptor-ligand binding studies, motor protein kinetics, hybridization kinetics on microarrays etc.).
- Application of hydrodynamic flow fields (eg. alignment of macromolecules, nanotechnology).
- Generation of lateral concentration gradients in microchannels.
- Measurement of homogeneity of microbeads and sorting.
- Activity measurement of electrically active cells on microelectrode arrays in the flow-through.
- Rapid prototyping of microsystems (eg. for stopped flow or chemical synthesis) by use of PDMS.
- “Sample carrier” for the study of non-transparent substrates under the microscope.

Nano-Plotter™ NP2.1 Features:

- No impact on sensitive surfaces through touchless technology.
- Unlimited spot replication from each single sample aspiration.
- Homogeneous spot topology.
- Variation in dosage volume as low as 0.1 nL without changing tip.
- Flexibility to dispense microlitre quantities through standard disposable tips.
- Array layout can be arbitrary and independent of pipette head layout.
- Highly effective washing and cleaning system. New double washbowl rinses the tips with two different wash fluids for more efficient removal of “sticky” proteins.
- Special humidifying and chilling technology (dew point pipetting) prevents evaporation and conserves nanolitre volumes in applications such as miniaturised assays.
- Temperature controlled slide deck.

Further details on the new Nano-Plotter™ NP2.1 are available from:

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