

DPN Inkwell Arrays: 48 Bio M

NanoInk's DPN[®] Inkwell Arrays are used to coat pen tips with ink material. The pen array is dipped into the terminal side of the micron-sized channels, containing different inks for coating the tips of the pen array. NanoInk has designed a series of Inkwell arrays to meet the needs of inking the different types of DPN pens that are available for use.

The Inkwell arrays are ~ 1 cm², easily fitting onto the sample puck of the DPN 5000, NSCRIPTOR™ Systems, as well as the stage of the NLP 2000 System. The 48 Bio M Inkwell arrays are designed specifically to be used with 48 Bio M Pen arrays. The spacing between the microchannels is 66 μ m, corresponding exactly to the spacing between each pens of the 48 Bio M pens. The 48 Bio M Inkwells feature 48 2 mm diameter reservoirs with a depth of 85 μ m. Each reservoir is connected to 40 μ m wide channel that leads to the loading area where channels taper to 10 μ m across. Further details of the measurements of the twelve reservoir chips are shown in Figure 1 and 2.

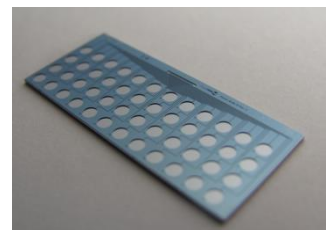


Figure 1: The 48 Bio M Inkwell array chip.

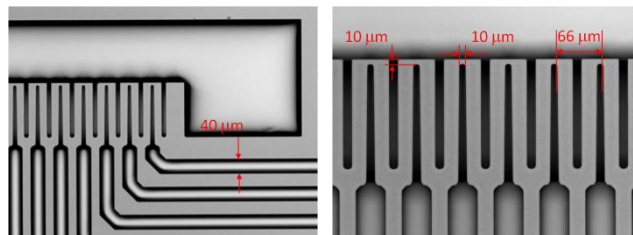


Figure 2: Optical microscope images showing (a) a view of a portion of the loading area, and (b) the critical dimensions of the microchannels and microwells.

The un-etched surface around the reservoirs and microchannels is coated with a hydrophobic coating (Teflon[®]) that prevents inks from spreading to other reservoirs or channels and causing cross contamination. The reservoirs supply ink to the loading area by capillary wicking in the microchannels. The reservoirs are filled with ink using a micropipette, usually 1-2 μ L (a small drop). When used with the paring pen array (48 Bio M Pen Array) the reservoirs can be filled with the same ink for throughput experiments or different inks for multiplexing experiments. The system was designed to keep the microwells full of ink, even as the ink supply slowly evaporates from the reservoir.

Ordering Information:

Item Name: Inkwell Arrays, 48 Bio M

Item Number: IWL-0033-01

Compatible with the NLP 2000 System

Learn more about NanoInk products and services at www.nanoink.net. Or call us at 847-679-NANO (6266).