

Approaches to Low Cost, High Sensitivity, Automated, Multiplexed Protein Immunoassays for Cancer Diagnostics

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A



**Tiny sharp blade
in casing**

**B Computer aided design patterned on silicone gasket
and stainless steel shim**

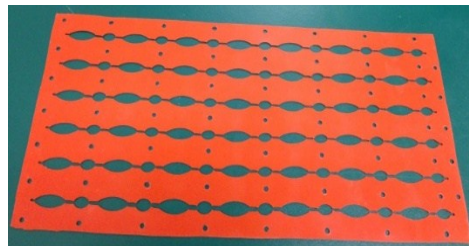


Figure 1. Accugraphic Klic-N-Kut (KNK) desktop craft cutter used in making microfluidic channels from silicone gasket, inset showing a blade holder with sharp blade used in cutting the channels. (B) Complex fluidic channels patterns were cut using this technique on silicone gasket and stainless steel metal shim.

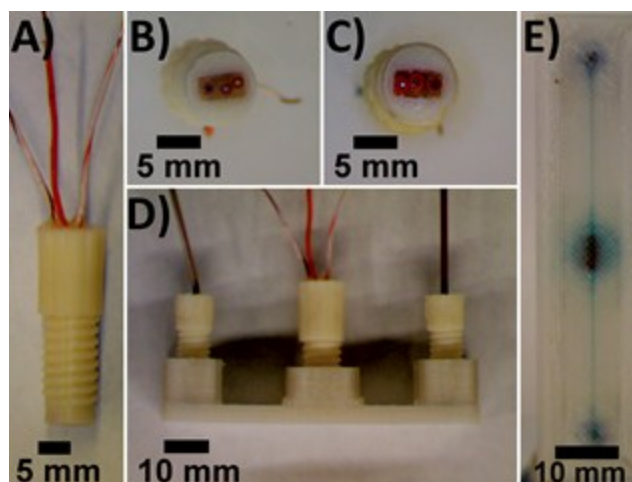


Figure 2. 3D-printed device with electrodes incorporated in fluidic channel. A) Side view of threaded ABS fitting with integrated electrodes. Bottom view of ABS fittings equipped with B) 0.5 mm Ag/AgCl reference, 0.25 mm Pt working, and 0.5 mm Au counter electrodes; and C) 0.25 mm Pt counter, 0.1 mm Au working, and 0.5 mm Ag/AgCl reference electrodes. Side (D) and bottom (E) views of 3D-printed PET device with electrodes integrated in fluidic channel that is filled with 0.1 mM methylene blue in 10 mM PBS, pH 7.4.