

Materials List for:

Fabrication of Three-dimensional Paper-based Microfluidic Devices for Immunoassays

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Materials

Name	Company	Catalog Number	Comments
Illustrator CC	Adobe		to design patterns for layers of paper and adhesive
Xerox ColorQube 8580 printer	Amazon	B00R92C9DI	to print wax patterns onto layers of paper and Nylon
Isotemp General Purpose Heating and Drying Oven	Fisher Scientific	15-103-0509	to melt wax into paper
Artograph LightTracer	Amazon	B000KNHRH6	to assist with alignment of layers
Apache AL13P laminator	Amazon	B00AXHSZU2	to laminate layers together
Graphtec CE6000 Cutting Plotter	Graphtec America	CE6000-40	to pattern adhesive films
Swingline paper cutter	Amazon	B0006VNY4C	to cut paper or devices
Epson Perfection V500 photo scanner	Amazon	B000VG4AY0	to scan images of readout layer
economy plier-action hole punch	McMaster-Carr	3488A9	to remove alignment holes
Whatman chromatography paper, Grade 4	Sigma Aldrich	WHA1004917	
Fisherbrand chromatography paper (thick)	Fisher Scientific	05-714-4	to function as blot layer
Immunodyne ABC (0.45 µm pore size)	Pall Corporation	NBCHI3R	to function as material for capture layer
removable/permanent adhesive-double faced liner	FLEXcon	DF021621	to facilitate peeling
permanent adhesive-double faced liner	FLEXcon	DF051521	
wax liner	FLEXcon	FLEXMARK 80 D/F PFW LINER	to assist with patterning adhesive
acrylic sheet	McMaster-Carr	8560K266	to fabricate frame
self-adhesive sheets	Fellowes	CRC52215	to use as protective slip
absolute ethanol	VWR	89125-172	to sanitize work area
bovine serum albumin	AMRESCO	0332	
Sekisui Diagnostics OSOM hCG Urine Controls	Fisher Scientific	22-071-066	to use as positive and negative samples
anti-β-hCG monoclonal antibody colloidal gold conjugate (clone 1)	Arista Biologicals	CGBCG-0701	to treat conjugate layer
goat anti-α-hCG antibody	Arista Biologicals	ABACG-0500	to treat capture layer
10X phosphate buffered saline	Fisher Scientific	BP3991	
Oxoid skim milk powder	Thermo Scientific	OXLP0031B	
Tween 20	AMRESCO	M147	