Electronic Supplemental Information

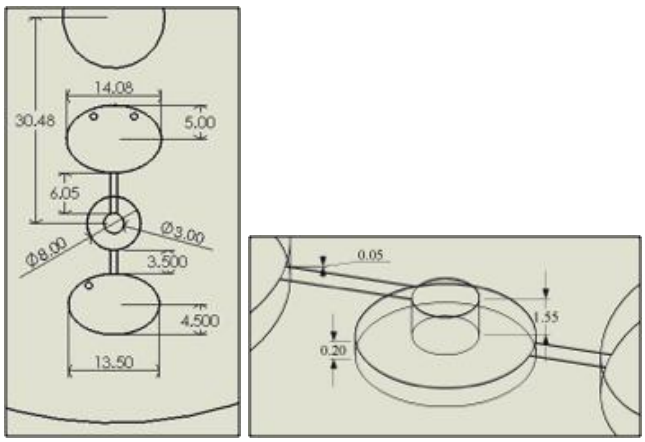

Figure S1. Dimensions of design used for initial dissolvable film plug validation.

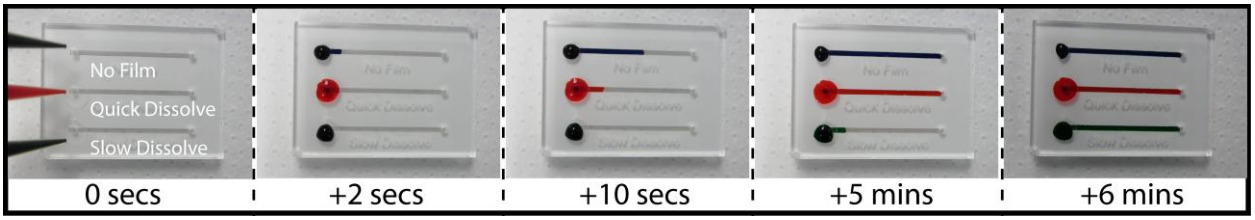

Figure S2. Sequential images of liquid transfer in a basic, 3D microfluidic chip with quick and slow dissolve DF tabs. Liquids are loaded simultaneously using a multi-pipette. The blue fluid immediately wicks into the channel above the "No Film" channel as no fluid barrier is present. After ~10 s the quick film tab dissolves allowing red fluid to enter the corresponding channel. 5 minutes later the slow dissolve tab opens, which introduces green liquid into the channel. The last image shows complete wicking of all channels after 6 mins.

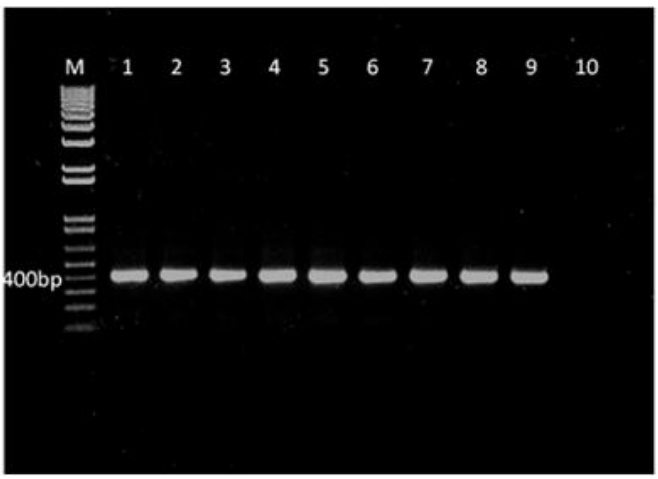

Figure S3. PCR amplification of murine antibody genes in the presence and absence of fast and slow dissolvable films. The target PCR amplicon was approximately 400 bp in size. Lane M contains a 1 kilobase DNA molecular weight marker. Lanes 1 to 3 show PCR amplification with the addition of the fast dissolvable film. In addition, lanes 4 to 6 show PCR amplification with the addition of the slow dissolvable film. In contrast, lanes 7 to 9 show PCR amplification in the absence of the dissolvable films. Lane 10 shows a negative (no template) control PCR reaction. Addition of either the fast or slow dissolvable films did not negatively impact the PCR amplification of the murine antibody genes.