

## Synthesis of CTC-capturing Hydrogel Microparticle via Degassed Mold Lithography

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Circulating tumor cell (CTC) detection technology is essential for isolating CTC, which is important biomarker of cancer, from blood by liquid biopsy. Since applying hydrogel microparticles in CTC detection has advantages in the point of customization, biocompatibility and cell culture, we optimize microparticles covered with optimized concentration of antibody against epithelial cell adhesion molecule to capture CTC. Improving previously published work, we introduce porosity-tuned, amplified-reaction site microparticles via controlling prepolymer composition and applying new fabrication technique called degassed mold lithography. Optimized microparticles have optimal porosity and reactive terminal bonds for conjugating antibodies. Also, they capture CTC effectively with high affinity compared to previous works.