

Development of post-processed attachment of Antibody into Hydrogel Microparticle for CTC capture

이낙준, 봉기완[†], 황기태¹, 맹세정¹

고려대학교; ¹보라매병원

(bong98@korea.ac.kr[†])

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 compared to other approaches in the point of customization, biocompatibility and cell manipulation, we introduce microparticles covered with antibody against epithelial cell adhesion molecule to capture CTC. Improving previously published work which utilizes carboxylic acid groups to alter unconverted double bond in hydrogel microparticle into carboxylic acid groups to alter unconverted double bond in hydrogel microparticle into carboxylic acid groups. Adding more carboxylic acid groups by the application shows more antibody attachment through fluorescence intensity test. Introducing additional carboxylic acid groups by thiol linking increases the number of total available carboxylic acid groups by thiol linking increase the number of total available carboxylic acid groups and is expected to improve affinity of the microparticles for CTC detection.