

# Highly Correlated Recurrence Prognosis in Patients with Metastatic Colorectal Cancer by Synergistic Consideration of Circulating Tumor Cells/Microemboli and Tumor Markers

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Recovering testing of rare cells was carried out for automatic SACA imaging system. HCT116 cells were diluted in white blood cells at different ratio from 1:10,000 to 1:1,000,000. HCT116 cells were stained by Hoechst 33258 positive/EpCAM-FITC positive/CD45-PECy-7 negative, respectively, and then dispensed into SACA chip. At 1:1,000,000 dilution., roughly 11% HCT116 cells were lost during preparation, and other single target HCT116 cells were clearly identified by the automatic SACA imaging system with an 89% recovery rate.

HCT-116 : WBC	Mixed HCT116 cells number	Detected HCT116 cells number	Average deviation value
1:10,000	32.8 ± 1.9	26	8%
		29	
		27	
		30	
1:100,000	31 ± 1.5	25	10%
		24	
		31	
		31	
1:1,000,000	35 ± 1.9	26	11%
		31	
		31	

**Table 1.** SACA image detecting system spike-in recovering rate.

CTC clusters were detected in PB of 14 CRC patients, (mean ± SEM, 1.07 ± 0.27) and MVB (mean ± SEM, 1.17 ± 0.51) of 16 CRC patients (Figure S1). The difference of CTC clusters numbers between PB and MVB was not statistically significant.

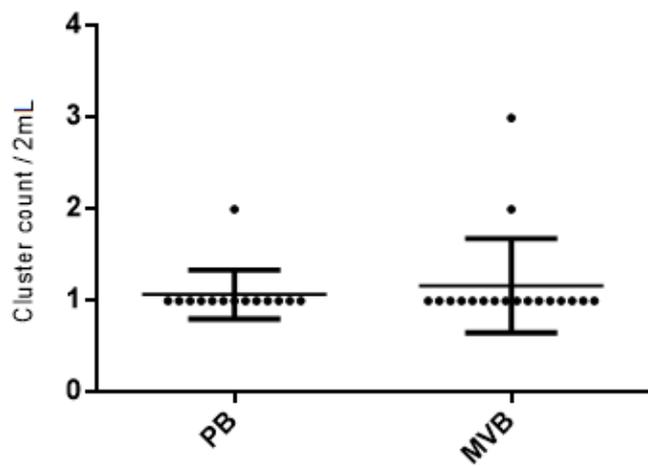


Figure S1. CTC clusters number of CRC patient in this research.

[https://drive.google.com/drive/u/1/folders/1o8iNmdBTN\\_1\\_-DGO9iM9y21\\_tF2eFIV](https://drive.google.com/drive/u/1/folders/1o8iNmdBTN_1_-DGO9iM9y21_tF2eFIV)

Video S1. The image system protocol.