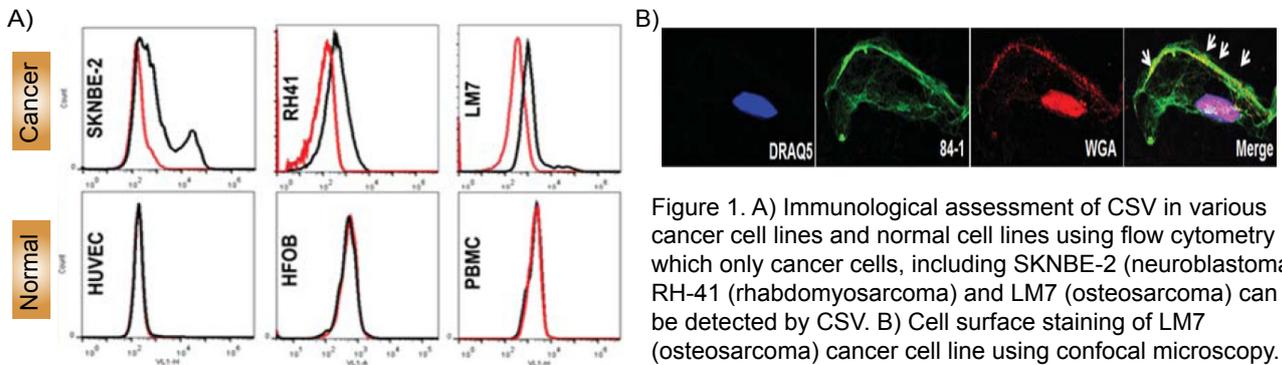


Cell-Surface Vimentin (CSV) Antibody Capture of Circulating Tumor Cells in Sarcoma Patients

Not only emerging as an universal marker for circulating tumor cells (CTCs) undergoing epithelial-mesenchymal transition (EMT), cell-surface vimentin (CSV) has also been identified as an exclusive marker on sarcoma CTCs. By exploiting CSV monoclonal antibody, clone 84-1, as a primary prognostic tool, detection, enumeration and isolation of CTCs from different types of sarcoma has become achievable to monitor cancer metastasis and relapse.



Isolation, Enumeration and Characterization

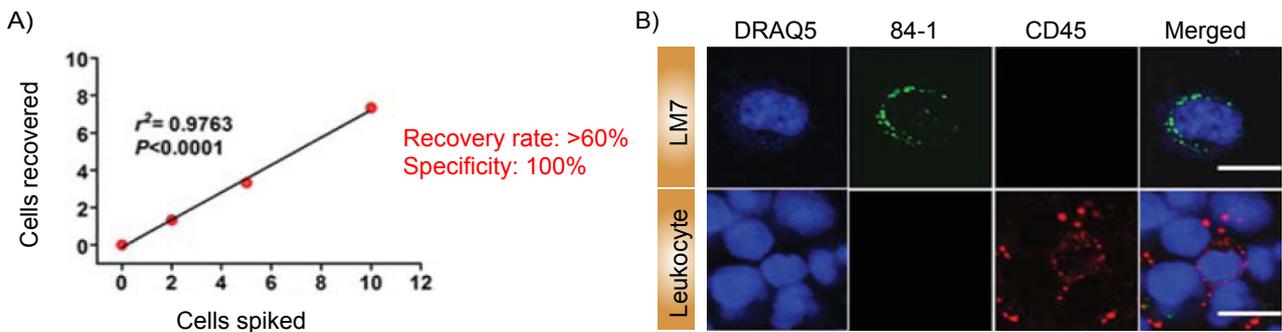


Figure 2. A) Regression analysis of capture efficiency for different cell numbers of LM7 spiked into human blood. The recovery rate is more than 60% where as the specificity is 100%. B) The isolation of leukocytes and LM7 cancer cells from blood were co-stained against DRAQ5, CSV(84-1) and CD45.

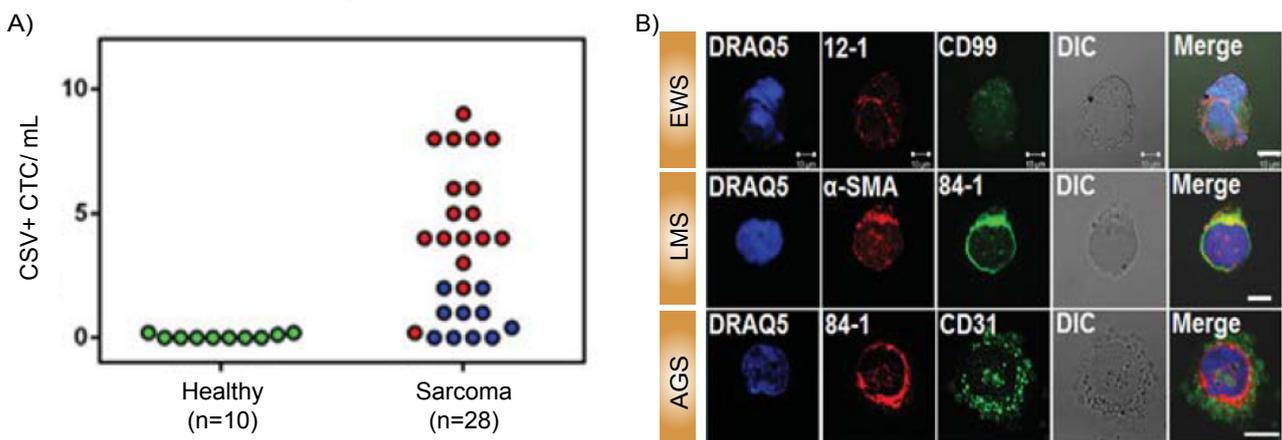


Figure 3. A) Enumeration of CSV+ CTCs from healthy and sarcoma cancer patient blood samples. B) Validation of CSV+ CD45- CTC isolated from Ewing sarcoma (EWS), leiomyosarcoma (LMS) and angiosarcoma (AGS) by staining against CD99, α -SMA and CD31, respectively.

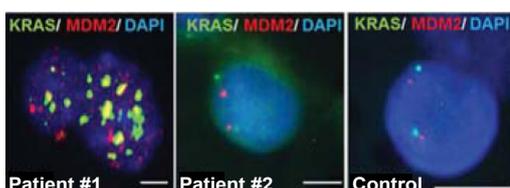


Figure 4. Fluorescence in situ hybridization (FISH) characterization on osteosarcoma CTC targeting MDM-2 and KRAS gene amplification between patient #1 and patient #2 in which patient #1 was diagnosed with lung metastasis while patient #2 had localized osteosarcoma.

References:

1. Satelli A., et al., Cancer Research 2014; 74: 1645-1650.