

An Improved Circulating Tumor Cells Analysis Method for Identifying Tumorous Blood Cells

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Abstract : Circulating Tumor Cells (CTC) is used to detect tumoral cell metastases using blood samples of patients with cancer (lung, breast, etc.). Using an immunofluorescent method a three channel image (Red, Green, and Blue) are obtained. These set of images usually overpass the 11 x 30 M pixels in size. An aided tool is designed for imaging cell analysis to segmented and identify the tumorous cell based on the three markers signals. Our Method, it is cell-based (area and cell shape) considering each channel information and extracting and making decisions if it is a valid CTC. The system also gives information about number and size of tumor cells found in the sample. We present results in real-life samples achieving acceptable performance in identifying CTCs in short time.

Keywords : Circulating Tumor Cells (CTC), cell analysis, immunofluorescent, medical image analysis

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