

SWITCHING FROM TWO-COLOR TO THREE COLOR OF FLOW CYTOMETRIC IMMUNOPHENOTYPING

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ABSTRACT

Since the year of 2002, hematology laboratory at Armed Forces Research Institute of Medical Sciences (AFRIMS) was accredited by the College American Pathologists (CAP) which brings more dynamic in research and development in immunophenotyping area. At the beginning in 1992, two color flow cytometry is only immunophenotyping technique which has been employed to measure the level of CD4 and CD8 in supporting of HIV vaccine trials. After many years of coping with this technique, we found that there are some disadvantages that have impact on cost effectiveness of our budget. By this reason, the three color flow cytometry has been developed and comparison between two methods has been analyzed by using linear regression. We found that two color and three color flow cytometry yield very well correlation ($r \geq 0.93$). in percentage and absolute numbers of CD4 and CD8 counts. The advantage of three color flow cytometry is reduced technician time, decreased need for controls, fewer tubes in the panel and no need hematology analyzer. From time to time, we learn that the significant scientific and advance technological in the development and production of reagents, instrument and software have permitted widespread access to multicolor flow cytometry with the final goal of cost saving.

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