Thesis Title	Preparation of Control Cells from Normal and Thalassemic Blood for Automated Blood Cell Analyzers
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ABSTRACT

The study on quality control of automated blood cell analyzers by using three separate self-prepared control cells was extensively investigated. The three parts of control cells are pseudo-leukocyte and fixed platelets, which are fixed by glutaraldehyde, and control red cells from normal persons and thalassemic patients preserved and anticoagulated in CPD or CPDA-1. The study focused on quality control of two automated blood cell analyzers, Technicon H-1 and Coulter MAXM which base on two separate principles. The Technicon H-1 system bases on the principle of light scattering but the Coulter MAXM bases on the principle of electrical impedance for cell counting and measurement of each hematological parameters. In this study, the self-prepared control cells can be satisfactorily utilized as control for each system with statistical significant difference ($p < 0.05$) for both systems. The expiration dates for control cells are different for both systems and should be determined for each system specifically. The control red cells

prepared from thalassemic patients are quite satisfactorily useful as an abnormal control for both systems during this study.