

Cell Number and Viability Evaluation Using an Automatic Cell Counter

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We compared the cellular parameters (cell number and percentage of cell viability) of human bone marrow derived mesenchymal stem cells (FetMSC line) by using a Goryaev chamber (GC) and an automatic counter (AC) TC20™ (Bio-Rad, USA). By using the TC20 Data Analyzer program we analyzed the nature of the elements that constitute the difference between the calculated values of the parameters and the values obtained in the AC. We found out that the error in the measurement results was caused by the following elements of the cell suspension: trypan blue solution, growth and conditioned mediums. Based on that, we offered a modification of the existing protocol for the use of AC.

Keywords: mesenchymal stem cells, automatic cell counter, Goryaev chamber, cell diameter, cell viability