

CFU-E和其分化细胞的生物物理特性

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用可诱发小鼠贫血的病毒(anemia-inducing strain friend's virus, FVA)感染BALB/c小鼠, 13 d后取其脾脏, 用Ficoll-Urografin分层液(1.070)分离出红系集落形成单位(colony forming unit-erythroid, CFU-E)细胞, 用Wright-Giemsa染液染色并用透射电镜进行形态学观察, 在培养液加细胞因子, 如促红细胞生成素(erythropoietin, EPO)、白介素3(interleukin-3, IL-3)、干细胞刺激因子(stem cell factor, SCF), 诱导其分化的情况下培养12、24和36 h, 分别对0、12、24和36 h的细胞进行电泳率、膜的流动性和变形性的测量及红系特异转录因子GATA-1表达(0、12、24和48 h)的检测, 发现CFU-E细胞随着分化培养时间增加, 其电泳率不断减少, 膜的流动性不断增大, 细胞的变形性和取向性逐渐变好; CFU-E在0、12和24 h GATA持续高水平表达, 而48 h后, 其表达明显降低。

BIOPHYSICAL CHARACTERS OF CFU-E AND ITS DIFFERENTIATION

Colony Forming Unit-Erythroids (CFU-Es) were obtained from mice during the acute disease caused by anemia-inducing virus (FVA). They were induced in medium which contains EPO, BSA, IL-3 and SCF. Their biophysical characters after 0, 12, 24 and 36 h and GATA-1 expression after 0, 12, 24 and 48 h were studied. The results showed that their biophysical characters were changed regularly, and that GATA-1 expressed abundantly until CFU-E has been induced for 48 h. After 48 h, content of GATA-1 became abruptly low.

关键词

GATA-1; 电泳率(Electrophoretic mobility); 膜的流动性(Fluidity); 变形性(Deformability)