

论著

四种常用的人中性粒细胞分离方法的比较

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摘要

目的: 比较Percoll非连续密度梯度离心法、Ficoll-Hypaque 密度梯度离心法、裂解红细胞法和 Dextran作用下红细胞自然沉降法四种常用的人中性粒细胞分离方法。方法: 取健康人外周静脉血, 分别采用以上四种方法进行中性粒细胞分离, 对其细胞纯度、回收率、存活率进行比较。结果: Percoll非连续密度梯度离心法与Ficoll-Hypaque密度梯度离心法分离得到的细胞纯度均大于90%, 两者间比较无统计学差异 (P>0.05); 裂解红细胞法和Dextran作用下红细胞自然沉降法分离得到的细胞纯度略低于Percoll非连续密度梯度离心法(P<0.01)与Ficoll-Hypaque密度梯度离心法 (P<0.05)。Dextran作用下红细胞自然沉降法的回收率低于Percoll非连续密度梯度离心法 (P<0.01)、Ficoll-Hypaque密度梯度离心法(P<0.01)和裂解红细胞法 (P<0.05); Percoll非连续密度梯度离心法回收的中性粒细胞存活率明显高于Ficoll-Hypaque密度梯度离心法 (P<0.05), 裂解红细胞法(P<0.01)和Dextran作用下红细胞自然沉降法 (P<0.01)。结论: Percoll非连续密度梯度离心法分离中性粒细胞, 纯化程度好, 回收率高, 是一种简单、高效的中性粒细胞分离方法, 适于临床和科研中广泛应用。

关键词 [中性粒细胞](#) [Percoll非连续密度梯度离心法](#) [Ficoll-Hypaque密度梯度离心法](#) [裂解红细胞法](#) [Dextran红细胞沉降法](#)

分类号

Comparison of 4 popular methods for neutrophil isolation from human peripheral blood

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Abstract

ObjectivePercoll density gradient centrifugation, Ficoll-Hypaque density gradient centrifugation, red blood cells cracking and natural erythrocyte sedimentation method with Dextran, which are 4 frequently used methods for neutrophil separation from human peripheral blood, were compared. MethodsRespectively using the 4 methods to separate neutrophil from same healthy human peripheral blood, the purity, recovery rate, and cell survival rate were compared.ResultsAmong the 4 separation methods, the neutrophil purity from Percoll density gradient centrifugation and Ficoll-Hypaque density gradient centrifugation were more than 90%,but there was no significant difference between them (P>0.05); the cell purity from red blood cells cracking and the natural erythrocyte sedimentation method with Dextran was lower than the Percoll density gradient centrifugation (P<0.01), Ficoll-Hypaque density gradient centrifugation (P<0.05);the neutrophil recovery rate from Percoll density gradient centrifugation, Ficoll-Hypaque density gradient centrifugation and red blood cells cracking were significantly higher than that from the natural erythrocyte sedimentation method with Dextran (P<0.01, P<0.01,and P<0.05, respectively); Cell survival rate from Percoll density gradient centrifugation was significantly higher than Ficoll-Hypaque density gradient centrifugation (P<0.05), red blood cells cracking (P<0.01), and the natural erythrocyte sedimentation method with Dextran (P<0.01). Conclusion Percoll density gradient centrifugation provides the most simple and efficient approach for isolation of human blood neutrophil with the high purity and viability, which is suitable to utilize in the clinical work and scientific research.

Key words [neutrophil](#) [Percoll](#) [Ficoll-Hypaque](#) [cells cracking](#) [Dextran](#)

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