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论著

# 细胞因子短期扩增对造血干/祖细胞黏附和迁移能力的影响

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摘要 目的：探讨干细胞因子（SCF）+白细胞介素-6（IL-6）短期扩增对CD34+造血干/祖细胞黏附和迁移能力的影响。

方法:用密度剃度离心的方法分离脐血CD34+细胞，经SCF和IL-6孵育48 h，用CCK-8方法检测CD34+细胞增殖能力；用流式细胞仪检测处理前后的CD49d（VLA-4）、CD11a（LFA-1）、CD62L（L-selectin）及CD184（CXCR4）的表达。用纤连蛋白（FN）包被96孔板，检测经或未经因子扩增的CD34+细胞的黏附能力。扩增的CD34+细胞悬浮于transwell培养板的上层，下层添加基质细胞衍生因子（SDF-1），流式细胞仪检测迁移细胞数，计算迁移率。

结果:经SCF+IL-6处理48h后CD34+细胞扩增近3倍；表达CD49d、CD11a、CD62L及CD184的CD34+细胞的百分数分别由原来的26.34%±5.37%、17.63%±4.57%、46.38%±6.61%和9.58%±1.56%增加到65.67%±8.72%、56.67%±6.34%、84.76%±9.57%和19.32%±3.64%（P<0.01）。扩增后的CD34+细胞对FN的黏附能力及在SDF-1诱导下的迁移作用都显著增强（P<0.01）。

结论:SCF+IL-6短期扩增CD34+ 造血干/祖细胞显著增加细胞的黏附能力，增加SDF-1诱导的迁移作用，可能是SCF+IL-6促进归巢的主要机制之一。

关键词 造血干/祖细胞； 归巢； 细胞黏附分子； 细胞运动

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# Effect of ex vivo short time expansion with SCF and IL-6 on the adhesion and transmigration activities of hematopoietic stem/progenitor cells

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**Abstract**

<FONT face=Verdana>AIM:To investigate the expression and function of homing related molecules and transmigration ability of human cord blood CD34+ hematopoietic stem/progenitor cells after short time stimulation with cytokine SCF and IL-6.<BR>METHODS:CD34+ cells were separated by Ficoll density gradient centrifugation and stimulated by SCF and IL-6 cytokines for 48 h. The changes of CD49d (VLA-4), CD11a (LFA-1), CD62L (L-selectin) and CD184 (CXCR4) were analyzed by flow cytometry. The adherent and migration activities of CD34+ cells were evaluated in human fibronectin (FN) coated microplates (96 wells) and transwell system.<BR>RESULTS:The numbers of CD34+ cell expanded to 3 folds and the percentages of CD34+ cells that were positive expressions for CD49d, CD11a, CD62L or CD184 increased 1 to 2 folds after the cytokine stimulation. The spontaneous adhesion between CD34+, FN and SDF-1 induced migration increased after SCF+IL-6 stimulated.<BR>CONCLUSION:SCF+IL-6 can improve the most of the homing related characteristics and activities in the short time expansion of CD34+ hematopoietic stem/progenitor cells, which may be partly related to the increased intrinsic homing potential.</FONT>

**Key words** Hematopoietic stem/progenitor cells Homing Cells adhesion molecules Cell movement

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