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论著

抗CD44抗体HI44a对白血病细胞分化与凋亡作用的体外研究

宋国丽1;廖晓龙2 ;李 彬2;刁世勇2;张丽艳2;肖志坚2;韩忠朝2

1、深圳大学生命科学学院，广东 深圳，518060；2、中国医学科学院、中国协和医科大学血液学研究所实验血液学国家重点实验室，天津 300020

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摘要 背景与目的：探讨抗CD44抗体HI44a对新鲜白血病细胞分化及凋亡的作用。材料与方法：从细胞形态学、四氮唑蓝(NBT)还原反应和细胞分化特异性抗原CD11b，CD14和CD15的变化,体外研究HI44a对31例急性髓系白血病患者白血病细胞的诱导分化作用。并利用Annexin-Ⅴ试剂盒检测其对白血病细胞的凋亡诱导，RT-PCR方法检测HI44a对细胞分化相关因子G-CSF，M-CSF及原癌基因c-myc表达的影响。结果：经HI44a作用后，白血病细胞形态向成熟方向转变；M2～M5各亚型的NBT还原反应阳性率分别升高到31％（对照9％）、55％（对照10％）、25％（对照12％）和32％（对照11％），与对照组相比，差异均有统计学意义（P值<0.01）。CD11b，CD14和CD15表达分别由对照组的9.65%，27.40%，57.38%升高到19.29%，40.60％和66.82%（P值均<0.01）。细胞的早期凋亡率由对照组的26.21%升高到41.18%。RT-PCR检测发现HI44a作用后，M-CSF表达增强，而原癌基因c-myc表达降低。 结论：HI44a能够有效的诱导白血病细胞分化及凋亡，为治疗急性髓性白血病提供了一条新思路。

关键词 抗CD44抗体；白血病细胞；分化；凋亡

In vitro Effects of Anti-CD44 Antibody on the Differentiation and Apoptosis of Fresh Acute Myeloid Leukemic Cells

SONG Guo-li1, LIAO Xiao-long2, LI Bin2, DIAO Shi-yong2, ZHANG Li-yan2, XIAO Zhi-jian2, HAN Zhong-chao2,

1. College of Life Science, Shenzhen University, Shenzhen 518060, Guangdong,China; 2. State Key Laboratory of Experimental Hematology, Institute of Hematology, Peking Union Medical College, Chinese Academy of Medical Science, Tianjin 300020,China

Abstract BACKGROUND＆AIM：To investigate the effect of an anti-CD44 antibody,HI44a,in inducing differentiation and apoptosis of freshly isolated acute myeloid leukemic cells. MATERIAL AND METHODS：The effect of HI44a on the differentiation and apoptosis of fresh leukemia cell from 31 acute myeloid leukemia patients were studied in vitro. Cell morphology, nitroblue tetrazolium(NBT) reduction and expression of CD11b, CD14 and CD15 were measured. Early apoptotic cells were detected by annexin-Ⅴassay. Expressions of G-CSF, M-CSF and c-myc transcript were investigated by RT-PCR. RESULTS：In the presence of HI44a, the primary leukemia cells became more mature in morphology, the percentage of NBT-positive cells increased to 31％ (control 9％), 55％ (control 10％), 25％ (control 12％) and 32％(control 11％) in all the four subtypes, there was a significant difference between the groups (P<0.01). The expression of CD11b, CD14 and CD15 also increased to 19.29％,40.60％and 66.82％, respectively, whereas that in untreated control cells was 9.65％, 27.40％ and 57.38％. In addition, HI44a could efficiently induce leukemia cell to undergo apoptosis, the mean percentage of early apoptotic cells was significantly increased compared to the untreated control AML cells (41.18％ vs 26.21％). This effect was associated with enhanced M-CSF transcript expression and decreased c-myc transcript expression. CONCLUSION： HI44a could effectively induce differentiation and apoptosis of leukemia cells and thus warrants further studies as a therapy for acute myeloid leukemia.

Keywords anti-CD44 antibody acute myeloid leukemia cell differentiation apoptosis

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通讯作者 宋国丽 guolsong@hotmail