

氯化高铁血红素诱导K562细胞中 β -珠蛋白基因表达的研究 A Study of Inductive Effect of Hemin on Expression of the β -globin Genes in K562 Cells

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摘要 以绿色荧光蛋白(EGFP)基因为报道基因, 构建了在 β -珠蛋白启动子驱动及HS2元件调控下的重组表达载体HG, 用脂质体转染法将其转染到K562细胞中, 并用RT-PCR方法及流式细胞仪检测氯化高铁血红素(Hm)对K562细胞中 β -珠蛋白基因表达及重组载体HG在K562细胞中瞬时表达的影响。结果显示: 用 $30\mu\text{mol/L}$ Hm诱导K562细胞24、48及72h后, 不仅其 γ -珠蛋白mRNA水平升高, 其 β -珠蛋白mRNA水平也明显上升, 而且这种诱导作用在诱导24、48h后比较明显; Hm还可增强重组表达载体HG在K562细胞中的瞬时表达。提示Hm诱导红系分化的机理可能与 $\gamma \rightarrow \beta$ -珠蛋白基因的转换机制相关。

Abstract: The recombinant plasmid HG was constructed, in which the reporter gene encoding the enhanced green fluorescent protein (EGFP) was driven by the β -globin promoter and regulated under the HS2 element. The inductive effect of hemin on the expression of the β -globin gene and transiently transfected β -globin genes in K562 cells was analysed by FACS as well as RT-PCR method. The results showed that the level of γ and β -globin gene mRNA in K562 cells increased significantly after 24, 48 and 72 hours induced with $30\mu\text{mol/L}$ Hm. And this inductive effect was stronger after 24 and 48 hours. Furthermore, the transient expression of plasmid HG in K562 cells increased significantly with hemin induction. These results indicated that the mechanism of inductive erythroid differentiation with hemin may be correlated with mechanism of $\gamma \rightarrow \beta$ -globin gene.

关键词 [氯化高铁血红素](#) [K562细胞](#) [\$\gamma\$ -珠蛋白基因](#) [\$\beta\$ -珠蛋白基因](#) **Key words** [emin](#) [K562 cell line](#) [\$\gamma\$ -globin gene](#) [\$\beta\$ -globin gene](#)

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