

论文

维甲酸受体为靶点的高通量药物筛选细胞模型的建立

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摘要:

目的建立绿色荧光蛋白(GFP)标记的以维甲酸受体为靶点的高通量药物筛选细胞模型, 用于筛选治疗急性早幼粒细胞白血病(APL)、银屑病、痤疮以及肿瘤的新型药物。方法用分子生物学的方法, 构建含有8个串连维甲酸受体应答元件(RARE)并连接报告基因E-GFP的重组载体。将体外培养的细胞株用该重组载体进行稳定转染, 然后进行单克隆培养, 最终挑选出敏感、高效、稳定表达的单克隆细胞, 用于筛选针对维甲酸受体的小分子有机药物。结果建立了高效的药物筛选细胞模型。此模型筛选方法简便, 适用范围广, 灵敏度高, 结果稳定。结论挑选出的细胞株作为药物筛选模型可用于大规模高通量药物筛选。

关键词: 维甲酸受体 高通量药物筛选 细胞模型

Establishment of high-throughput drug screening model targeting retinoic acid receptor in cells

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Abstract:

AimTo screen new drug for the treatment of acute promyelocytic leukemia, psoriasis and acne, high-throughput drug screening cell models marked by green fluorescent protein (GFP) have been established. MethodsEight repeats of retinoic acid response element (RARE) were synthesized and cloned into a GFP expression vector. This construct was stably transfected into cells *in vitro*. Stable and sensitive cell clones with high copy numbers of RARE were selected by retinoic acid (RA) using fluorescence-activated cell sorting (FACS). ResultsA cell line has been chosen to be high-throughput drug screening cell model. This model was shown with low background, high sensitive and good reproducibility, and was convenient and inexpensive. ConclusionThis drug screening cell model can be used for retinoic acid receptor target high-throughput drug screening.

Keywords: high-throughput drug screening cell model retinoic acid receptor

收稿日期 2004-12-09 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者: 蒋澄宇

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