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基于遗传算法的基因芯片图像网格定位

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对基因芯片荧光图像进行网格定位是进行芯片分析的前提与关键。利用变形模板匹配方法,基因芯片的自动网格定位问题转化为优化问题,从而用遗传算法求解。遗传算法是一种模拟自然界进化过程的启发式优化算法,具有高效及可收敛到全局最优点的特点。实验证明该方法具有良好的准确性与可靠性。

AUTOMATIC GENE CHIP IMAGE GRID LOCALIZATION USING GENETIC ALGORITHM

Automatic gene chip image grid localization is an essential task for gene chip image analysis. An automatic gene chip image grid localization method is proposed. Using deformable template matching method, the automatic gene chip image grid localization problem is turned into an optimizing problem, which is settled by Genetic Algorithm. Experiments show that this method is precise, credible and robust.

关键词

遗传算法(Genetic Algorithm); 变形模板匹配(Deformable template matching); 基因芯片(Genetic chip)