

研究论文

几种化学计量学方法在放线菌及其次生代谢产物抗肿瘤活性筛选中的应用

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摘要 当今肿瘤的诊断与治疗对人类健康非常重要. 在放线菌次生代谢产物内寻找抗肿瘤抗生素的过程中, 如何从种类多、数量大的土壤放线菌株中确定目标菌株, 筛选是关键.

将化学计量学方法用于大批量的放线菌及其次生代谢产物的筛选数据分析,

首先通过主成分分析获得具有抗肿瘤活性菌株对6种肿瘤细胞抑制作用的一些关系与特异性,

其次在进行菌株次生代谢产物的分子模型筛选数据分析时, 利用比较分析发现有较好肿瘤抑制作用者,

基本与细胞筛选结果吻合. 二者结合建立了一种简便适当的分析模式,

能较快地从大批量放线菌株的筛选中找到具有抗肿瘤活性的有研究价值的目标放线菌株.

关键词 [放线菌](#) [次生代谢物](#) [抗肿瘤活性筛选](#) [化学计量学分析](#)

分类号

Application of Several Chemometrics Methods to Screening Antitumor Activities of *Actinomycetes* and Their Secondary Metabolites

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Abstract Several chemometrics methods were employed to analyze a large number of data sets coming from screening antineoplastic activities of large-scale *Actinomycetes* strains and their secondary metabolites. Firstly, the interrelation and the peculiarity of such active *Actinomycetes* strains on six tumor cells were obtained by principal component analysis. It was indicated that the half tumor cell strains used in the screening were decreased which could be concluded with good results. Secondly, those samples were found to have better antitumor activities in the two molecular models screening for the secondary metabolites, which can also match the tumor cell screening results by the comparative analysis method. An appropriate and efficient model has been proposed by combining correct analytical methods to help to select valuable candidate of *Actinomycetes* strains for antitumor researches.

Key words [Actinomycetes](#) [secondary metabolites](#) [antitumor activity screening](#) [chemometrics application](#)

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