

工程与应用

基于OET-KNN算法的蛋白质二级结构类型预测

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摘要 蛋白质二级结构类型预测是当今生物信息学研究的热点之一。利用氨基酸数字编码模型将氨基酸序列转换成数字信号, 根据LZ复杂度的算法计算了氨基酸的伪氨基酸成分, 再对伪氨基酸成分用OET-KNN算法进行分类预测。Jackknife测试结果表明该算法能使得预测成功率有较大的提高。

关键词 [蛋白质](#) [二级结构型预测](#) [K-近邻算法](#)

分类号

Protein secondary structural classes prediction based on OET-KNN modeling

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Abstract

Protein secondary structure prediction is the hot of bioinformatics. In this paper, a novel method based on optimal evidence-theoretic K nearest neighbor (OET-KNN) algorithm has been introduced, in which, based on encoding the amino acid sequence into digital signals, the pseudo amino acid composition is incorporated with the complexity through the LZ' s algorithm. The result of these pseudo-amino acids shows that the prediction success rate is improved.

Key words [protein](#) [predict protein secondary structural classes](#) [optimal evidence-theoretic K nearest neighbor \(OET-KNN\)](#)

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