

研究快报

蛋白质荧光标记中协同效应的高效液相色谱

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摘要 以牛血清白蛋白和胰岛素为研究对象, 经1,5-I-AEDANS衍生后, 采用高效液相色谱(HPLC)进行分离分析, 发现两者的衍生存在明显的协同作用.

关键词 [荧光标记](#) [蛋白质](#) [协同效应](#) [高效液相色谱](#)

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Cooperative Effects in the Fluorescent Labeling of Proteins Studied by High-performance Liquid Chromatography

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Abstract To improve the detection sensitivity of low abundance proteins in samples, fluorescence labeling might be a good solution method. In this manuscript, with 5-({2-[(iodoacetyl)amino]ethyl} amino) naphthalene-1-sulfonic acid (1,5-I-AEDANS) as the derivatizing reagent, the cooperative effects of insulin and BSA during the derivatization were studied. Through HPLC analysis, it was found that with BSA added, the detection sensitivity of the derivatized insulin could be improved. When the concentration ratio of BSA to insulin reached 200:1, the peak area of insulin was increased by over 4-fold, which demonstrates that the existence of BSA had a positive effect on the derivatization of insulin. Furthermore, even when the ratio reached 1000:1, the S/N of insulin was 8, which could not be detected without BSA being added. However, on the contrary, with insulin being added, the peak area of the derivatized BSA was decreased, demonstrating that insulin had a negative effect on that of BSA. All these results might be of great significance to the detection of low abundance proteins in proteome study.

Key words [Fluorescent labeling](#); [Protein](#); [Cooperative effect](#); [High-performance liquid chromatography\(HPLC\)](#)

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