

عنوان مقاله:

Rapid diagnostic of cysteine as a breast cancer risk factor based on fluorescent copper nanoclusters

محل انتشار:

یازدهمین کنگره بین المللی سرطان پستان (سال: 1394)

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خلاصه مقاله:

Background: cysteine (cys) are associated with oxidative damage and metabolic disorders, which may lead to carcinogenesis. women with higher levels of homocysteine and cysteine were at a greater risk for developing breast cancer when their folate levels were low. Herein, we report new method to detection of cys on the synthesis of size-selected copper nanoclusters (CuNCs) with cysteine. With increasing concentrations of cysteine the larger cluster formed, resulting in appreciable changes in optical properties. Material and methods: The copper sulfate precursor was reduced by cys. copper sulfate solution was added to freshly prepared Cys spike in to serum. Then NaOH solution was added. Results and discussion: The size of the nanocrystals were determined by SEM images and DLS. The components of the as-prepared CuNCs were characterized by FTIR spectrum. Conclusion: The presence of various concentration of Cys in a solution induces a decrease in the intensity of CuNCs emission. therefore the selective determination of cysteine with a lower analyte limit of 5 μ M, can be carried out in aqueous solutions without the need for any sophisticated instrumentation

کلمات کلیدی:

copper nanocluster, cysteine

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