Patent Search

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Abstract:

The invention relates to a system and method for early detection of gastric cancer, merging nanotechnology with machine learning techniques. Through the synthesis and functionalization of nanoparticles, specific biomarkers associated with gastric cancer are targeted with high precision, enabling sensitive detection in biological samples. M learning algorithms analyze the complex data generated from nanoparticle interactions, achieving remarkable accuracy in distinguishing between cancerous and healthy s This innovative diagnostic platform holds immense promise for improving patient outcomes through timely intervention and has the potential to transform cancer screeni protocols on a global scale.

Complete Specification

Description:The present invention pertains to the field of medical diagnostics, specifically focusing on the early detection of gastric cancer. It encompasses the integratio nanotechnology and machine learning techniques to develop a novel approach for identifying gastric cancer biomarkers with high sensitivity and specificity. This inventic aims to revolutionize cancer screening methods by offering a more reliable and non-invasive means of diagnosing gastric cancer at its early stages, thereby facilitating timely intervention and improving patient outcomes.

BACKGROUND OF THE INVENTION

The following description of related art is intended to provide background information pertaining to the field of the disclosure. This section may include certain aspects c the art that may be related to various features of the present disclosure. However, it should be appreciated that this section be used only to enhance the understanding the reader with respect to the present disclosure, and not as admissions of prior art.

Gastric cancer remains a significant global health challenge, with high morbidity and mortality rates, particularly due to late-stage diagnoses. Traditional diagnostic meth including endoscopy and biopsy, suffer from limitations such as invasiveness, cost, and reliance on subjective interpretation.

Recent advances in nanotechnology and machine learning have opened new avenues for early cancer detection. Nanoparticles offer unique properties that can be explo for targeted detection of specific biomarkers associated with cancer. Meanwhile, machine learning algorithms enable the analysis of complex datasets, facilitating the identification of subtle patterns indicative of early-stage disease

View Application Status

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