Detection of Calcitonin in Medullary Thyroid Carcinoma by an Electrochemical Sensor

Deshun sha¹, Baozhong Zhuge^{2,*} and Feng Lin³

¹ Department of Laboratory Medicine, The people's hospital of guan, Liaocheng City, Shandong Province, 276003, P.R. China

² Department of Laboratory Medicine, Linyi People's Hospital, No.27, East Jiefang road, Linyi City, Shandong Province, 276003, P.R. China

³ Department of Oncology, The Eighth People's Hospital of Shanghai, No.8, Caobao Road, Xu Hui District, Shanghai 200233, P.R. China

*E-mail: fenglin_linda@qq.com

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In this report, calcitonin (CT) was sensitively and selectively detected using a novel route in which a CT-imprinted polymer was synthesized on the surface of TiO₂ NPs using a surface molecular imprinting strategy. The sensor derived from the above polymer was capable of detecting slight variations in the human body CT concentration. For clinical analysis, this kind of sensor has potential to provide a reliable, disposable, renewable and cost-effective approach that avoids the matrix effect and cross-reactivity from real specimens.

Keywords: Thyroid medullary carcinoma; Electrochemical immunoassay; TiO₂; Molecular imprinting; Calcitonin

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