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Design of an aptamer-based magnetic adsorbent and biosensor systems for selective and sensitive separation and detection of thrombin

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Abstract

An aptasensor was designed for sensitive detection of thrombin using in biological fluids by integrating a magnetic aptamer-microbeads. To achieve this goal, the surface of gold plated QCM crystals was coated with L-cysteine and a thrombin binding DNA aptamer was immobilized on the L-cysteine coated QCM crystals surface via glutaraldehyde coupling. The binding interactions of thrombin to QCM crystals were characterized. Magnetic poly(2-

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