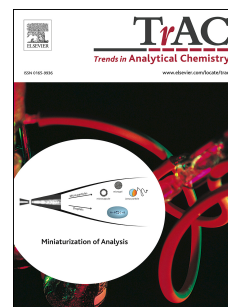


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Manifold methods for telomerase activity detection based on various unique probes

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Abstract

Telomerase is a basic nuclear protein reverse transcriptase and responsible for the elongation of telomeres in cells. It has attracted a lot of attentions and acted as an important sally port for cancer diagnosis and clinical therapy. Hence, accurate and efficient determination of telomerase activity is significant. In recent years, numerous sensitive and accurate techniques have been developed for in vitro or in situ detection of telomerase activity. These methods were mainly dependent on three unique properties of elongated telomerase primer (TS primer): 1) Plenty of negative charges play important role to change interactions between biomolecules and signal probes; 2) G-rich sequences have excellent peroxidase-like catalytic activity; 3) They can be used for DNA hybridization or strand displacement reaction, which are beneficial to construct biosensors. In this review, we conclude and enumerate these advanced methods for telomerase activity detection in recent years. Development trends of telomerase detection are also prospected.

Keywords

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