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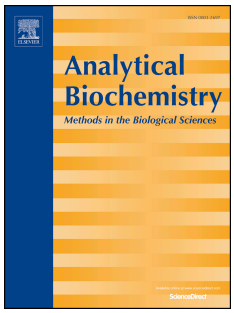

The potential of aptamers for cancer research

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The potential of aptamers for cancer research

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Abstract: Aptamers are promising alternatives to antibodies and can be used as high affinity agents for the cancer detection and the targeted drug transportation. In this manuscript, we highlight the advantages of aptamers, such as high affinities, specificity and excellent chemical stabilities, which are likely to benefit for the diagnosis of cancer in its early stages and then achieve molecular-level treatment. Also, we discuss the challenges and problems in the current application of aptamers.

Key words: Nucleic acids · Aptamer · Tumor cell · Biomarker · SELEX · aptasensor

1. Introduction

Since the discovery of the first ribonuclease P (RNase P) in *Tetrahymena thermophila* [1], the target-affinity function of nucleic acids has