

Aptamers and Their Applications in Plant Science Researches

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Abstract Aptamers are single-stranded oligonucleotides or short peptides that are screened and selected from artificially synthesized libraries and can specifically bind to the target molecules. Aptamers can bind and regulate the activities of its target molecules based on their own structure and sequence, and are applied to *in vivo* molecular function researches and new drug preparation explorations. In recent years, peptide aptamers have been widely used in various fields, such as medicine, genetics and molecular biology, which is becoming a highly efficient, specific and powerful new tool. In plants, with the establishment, application and promotion of the corresponding system, aptamers have gradually been become an effective tool for studying plant molecular functions. In this review, we summarized the classification, screening principles and basic applications of aptamers, with special emphasis on their applications in plant breeding. It can be expected that with the development of molecular design bio-breeding technology, aptamers can be cooperated with transgenic techniques and become a valuable application tool in the plant science fields.

Key words aptamer, nucleic acid, peptide, plants, screening

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