

The mysterious circle: molecular curiosities of RNA mediated gene regulation

Harish

Mohanlal Sukhadia University, India

Circular RNA (circRNA) is emerging as a key player because of its role in gene regulation and potential application in RNA-based drugs. Regulated and/or competitive spatiotemporal biogenesis of circRNA occurs through non-canonical splicing mechanism that involves back-splicing. Many functional aspects have been attributed to this newly emerging group of non-coding RNA. Few functional roles identified are miRNA sponging, protein sponging, mRNA trapping

and involvement of circRNA in development and diseases. The role of circRNA in plants is less explored and has been demonstrated that many circRNAs are involved in modulation of stress responsive genes. In this review, biogenesis and functional aspects of circRNA have been discussed with special focus on plants perspectives. Many unanswered questions which have not been raised before are discussed for future research endeavors.