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CircSERPINE2 protects against osteoarthritis by targeting miR-1271 and ETS- related gene

Shuying Shen

Zhejiang University, China



Abstract

Circular RNAs (circRNA) expression aberration has been identified in various human diseases. In this study, we investigated whether circRNAs could act as competing endogenous RNAs to regulate the pathological process of osteoarthritis (OA).

CircRNA deep sequencing was performed to the expression of circRNAs between OA and control cartilage tissues. The regulatory and functional role of circSERPINE2 upregulation was examined in OA and was validated *in vitro* and *in vivo*, downstream target of circSERPINE2 was explored. RNA pull down, a luciferase reporter assay, biotin-coupled microRNA capture and fluorescence in situ hybridisation were used to evaluate the interaction between circSERPINE2 and mir-1271-5p, as well as the target mRNA, E26 transformation-specific- related gene (ERG). The role and mechanism of circSERPINE2 in OA was also explored in rabbit models.

Our results reveal an important role for a novel circrna-circserPine2 in OA progression. CircSERPINE2 overexpression could alleviate HCs apoptosis and promote anabolism of ECM through mir-1271-ERG pathway. it provides a potentially effective therapeutic strategy for OA progression.

Biography

Shuying Shen has completed her PhD at the age of 27 years from Zhejiang University, China. She is the senior scientist at Run Run Shaw Hospital affiliated to Zhejiang University, China. She has over 30 publications that have been cited over 700 times, and her publication H-index is 22 and has been serving as an editorial board member of reputed Journals.



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