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Scope: Format: Amount: GEO accession:

Series GSE224978

Status **Private until Feb 14, 2023**
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Title CircAkt3 participates in bone cancer pain progression in rats by modulating MAPK signalling pathway

Organism [Rattus norvegicus](#)

Experiment type Non-coding RNA profiling by high throughput sequencing

Summary CircRNA parent genes were mainly enriched in MAPK and neurodevelopmental signalling pathways. CircAkt3 and circMap4k1 were significantly up-regulated in the bone cancer pain group. CircaAkt3 may increase p-ERK expression by upregulating Col8a1, which may further activate the MAPK pathway.

Overall design We established a bone cancer pain rat model. The top four differentially expressed circRNAs (DECs) in the model were validated by agarose gel electrophoresis and Sanger sequencing between the bone cancer pain group and control group. A circRNA-miRNA-mRNA network was constructed based on the interactions among circRNAs, microRNA (miRNA), and mRNA, which were predicted by TargetScan. mRNA and circRNA expression levels were detected by quantitative RT-PCR. In addition, Western Blot was performed to identify the protein levels of p-ERK, ERK, and Col8a1.

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Platforms (1) [GPL25947](#) Illumina NovaSeq 6000 (Rattus norvegicus)

Samples (2) [GSM7036439](#) bone_cancer_pain
[GSM7036440](#) control

Supplementary file	Size	Download	File type/resource
GSE224978_circRNA.txt.gz	330,8 Kb	(http)	TXT

Raw data are available in SRA
 Processed data are available on Series record