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Circular RNA and its potential as prostate cancer biomarkers

Tucker D *et al.* Circular RNA and prostate cancer

Dwayne Tucker, Wei Zheng, Da-Hong Zhang, Xue-Sen Dong

Abstract

Advancing knowledge of the transcriptome has revealed that circular RNAs (circRNAs) are widely expressed and evolutionarily conserved molecules that may serve relevant biological roles. More interesting is the accumulating evidence which demonstrates the implication of circRNAs in diseases, especially cancers. This revelation has helped to form the rationale for many studies exploring their utility as clinical biomarkers. CircRNAs are highly stable due to their unique structures, exhibit some tissue specificity and are enriched in exosomes which facilitate their detection in a range of

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Biomarker (left panel) and therapeutic (right panel) potential of lncRNAs and circRNAs in prostate cancer. These noncoding RNA (ncRNA) species can be measured from conventional tumor biopsy or liquid biopsy samples (blood and urine), and are potential diagnostic and prognostic biomarkers.

Author: Junjie T. Hua, Junjie T. Hua, Sujun Chen, Sujun Chen, Housheng H. He, Housheng H. He

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Nov 16, 2019 · **Circular RNA FOXO3**(**CircFOXO3**, also termed as Hsa_circ_0006404) is derived from exon 2 of forkhead box O3(**FOXO3**) **gene**, and abnormal expression is shown in different diseases. However, whether circFOXO3plays important roles in **tumorigenesis** and progression of **prostate cancer** ...

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Circular RNA May Become Prostate Cancer Biomarker | Rogel ...

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The stable structure of **circRNA** makes it an ideal candidate for **biomarkers** because it can be detected in blood or urine, making it **potentially** useful for **cancer diagnosis** or prognosis. As new technology allows researchers to plunge deeper into the genome and exome, a new class of **RNA** called **circRNA**, or **circular RNA**, may play an intriguing role.

Circular RNAs as Biomarkers for Cancer

<https://pubmed.ncbi.nlm.nih.gov/30259366>

Circular RNAs as Biomarkers for Cancer As a type of **novel noncoding RNAs**, **circular RNAs** (**circRNAs**) have attracted great interest due to its different characteristics from **linear RNAs**. They are abundantly and stably present in the transcriptome of eukaryotic cells, with ...

Circular RNA holds promise as cancer biomarker

<https://medicalxpress.com/news/2019-02-circular-rna-cancer-biomarker.html> ▾

Circular RNA are a type of **non-coding RNA** that forms into a **closed circular structure** rather than a linear structure. New **RNA sequencing methods** have brought these to light, and little is known...

Circular RNA Holds Promise as Cancer Biomarker

<https://labblog.uofmhealth.org/lab-report/circular...> ▾

Feb 07, 2019 · The stable structure of **circRNA** makes it an ideal candidate for **biomarkers** because it can be detected in blood or urine, making it **potentially** useful for **cancer diagnosis** or prognosis. As new technology allows researchers to plunge deeper into the genome and exome, a new class of **RNA** called **circRNA**, or **circular RNA**, may play an intriguing role.

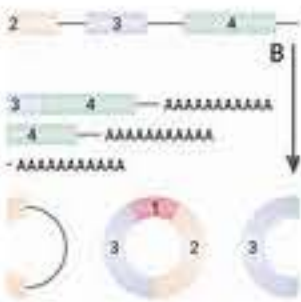
Circular RNA Makes Its Mark - thepathologist.com

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On the surface, **circular RNA** (**circRNA**) looks like a great candidate for a **cancer biomarker**. These **non-coding RNAs** have a closed continuous loop structure and, though less abundant than **messenger RNAs** (mRNAs) in biofluids, they are highly stable. And that means they can be detected in situations where mRNAs often degrade.

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Circular RNA



Circular RNA (or circRNA) is a type of single-stranded RNA which, unlike linear RNA, forms a covalently closed continuous loop. In circular RNA the 3' and 5' ends normally present in an RNA molecule have been joined together. This feature confers numerous properties to circular RNA, many of which have only recently been identified.

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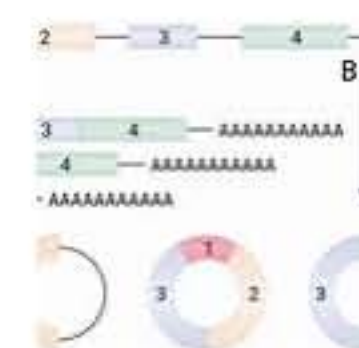
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Jun 01, 2016 - Deciphering **circRNAs** **interplay** with other **RNA species in cancer** would likely confer **circRNAs** great **potential** to become new diagnostic markers in early stages of **cancer**, and raise possibility for novel therapeutic interventions.

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Author: Fengling Wang, Adil J Nazarali, Shaoping Ji

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