

Why Circular RNA Is Attracting Attention From Investors, Pharma and Gene Therapy Developers

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Erik Digman Wiklund, CEO of Circio and co-discoverer of circular RNA, discusses the modality's therapeutic advantages, its role in gene therapy, and why circular RNA could reshape the future of medicine.



The RNA revolution is entering a new chapter. While mRNA transformed the industry's perception of nucleic acid therapeutics, circular RNA (circRNA) is increasingly attracting attention for its ability to deliver longer-lasting protein expression, enhanced stability, and potentially safer, more cost-effective gene therapies. As investors and pharmaceutical companies intensify their focus on next-generation genetic medicines, circRNA is rapidly evolving from a scientific curiosity into a clinically relevant therapeutic platform. In this conversation with **BioSpectrum Asia during BIO International Convention 2026, Erik Digman Wiklund, CEO of Circio and co-discoverer of circular RNA**, shares insights into the technology's growing momentum, its impact on gene therapy, and the opportunities it may unlock across cardiology, CNS disorders, ophthalmology, and beyond.

Circular RNA has rapidly moved from an emerging concept to a serious contender in next-generation therapeutics. What fundamental advantages does circular RNA offer over conventional mRNA and other RNA formats?

The natural biology circular RNA has always been compelling from a therapeutic standpoint. What has changed is our ability to harness the advantages of cRNA. Circular RNA (cRNA) lacks free ends, which makes it less sensitive to enzymatic degradation. This translates directly into extended half-life and sustained protein expression compared with linear mRNA. As an example, with our circVec platform, we have demonstrated up to 75-fold increased RNA half-life and up to 50-fold enhanced protein expression compared to conventional mRNA-based vector systems. This can be applied to areas such as AAV gene therapy to considerably increase expression of the transgene, as well as expanding the therapeutic window by letting you achieve the same therapeutic effect at a lower vector dose. Put simply, better efficacy and less toxicity, delivered at lower therapeutic doses and reduced cost.

Gene therapies continue to face challenges around manufacturing complexity, toxicity and affordability. How does circular RNA address these long-standing industry concerns?

These problems are interconnected and concern both cell and gene therapies. Toxicity in AAV *gene therapy* is largely a dose problem. If you can achieve the same or better therapeutic outcome at a fraction of the vector dose, you move away from the toxicity ceiling. Circio has demonstrated that circRNA-based gene expression can boost AAV activity by 40-fold in the heart *in vivo*. This suggests that our circVec system can deliver the same therapeutic effect in patients at substantially reduced doses than what is typically used today.

Vector dose is one of the primary drivers of manufacturing cost in AAV gene therapy. Lower dose requirements mean lower cost per patient, which is the lever the field needs to make these treatments more accessible. cRNA doesn't solve every manufacturing challenge, but it addresses one of the most fundamental constraints.

Circio has attracted significant investor attention in recent months. What factors do you believe are driving renewed confidence in RNA-based therapeutic platforms?

The data has matured to a point where the theoretical promise is becoming empirically confirmed. For Circio specifically, the data we presented at ASGCT in 2025 – where circVec showed superior *in vivo* transgene expression in muscle, heart, and spleen compared with linear mRNA – was a turning point. After this, a top 5 pharma company followed up by initiating a fully funded gene therapy collaboration with Circio, in effect “validating” the data. Recent M&A transactions in the cRNA space has also stimulated investor interest in the field in general, and in Circio specifically. These are the major factors behind Circio's successful USD 65 million fundraising in 2026, which will allow us to transition from a pre-clinical platform company and accelerate towards clinical proof-of-concept for our circVec platform.

Beyond current applications, which disease areas or therapeutic opportunities do you believe will benefit most from circular RNA over the next five years?

Cardiology is where Circio's data is most mature. Genetic and chronic heart diseases represent a major unmet medical need, and heart has historically been a challenging target for AAV gene therapy. The Circio/AaviGen collaboration announced in May this year, combining circVec with engineered, heart-targeted capsids, is specifically aimed at making low-dose, high-precision cardiac gene therapy a clinical reality. Eye and CNS are other areas in which Circio is active: durable, low-immunogenicity RNA expression in the eye and brain is a difficult challenge, and circRNA's properties address some of the core barriers.

Looking further out, *in vivo* cell programming is a major opportunity for Circio. The idea that one could reprogram a patient's immune cells in their body, rather than through an expensive and logistically complex *ex vivo* process, would fundamentally change access to cell therapy.

As the co-discoverer of circular RNA, what developments within the RNA field do you believe remain underappreciated by the broader biotechnology community?

Thomas Hansen and I published the first functional characterization of circular RNA in human cells in 2011, and even we didn't immediately foresee the therapeutic implications of our discovery. There's a reasonable argument that endogenous circRNAs play significant regulatory roles that we've barely begun to map out, and that understanding them better will open therapeutic strategies that aren't yet on anyone's radar.

On the more applied side, most of the industry conversation is focused on protein and CAR expression, which makes sense. However, the same stability properties that make circRNA compelling for gene therapy also make it a powerful platform for non-coding applications: miRNA sequestration, RNA-protein interactions, circular guide RNAs for gene editing, even PROTAC scaffolds for targeted protein degradation. The delivery infrastructure being built today for protein-coding circRNA will translate into those adjacent modalities, and I think that's where some of the most interesting therapeutic concepts of the next decade will emerge.