Pre-Clinical Collaboration Opportunity for a CRISPR-Cas9 treatment approach to acute myeloid leukemia

TECHNOLOGY SUMMARY
Researchers at Aarhus University have developed a treatment approach for Acute Myeloid Leukemia utilising the CRISPR-Cas9 technology. The team has provided in vitro proof-of-concept using a leukemia cell line. After treatment, cell proliferation was significantly suppressed, with successful targeting of the oncogene in question. Importantly, leukemia cell lines that did not harbour the oncogene were unharmed.

Further, the team has successfully used the technology in primary leukemia cells, comprising the same oncogene, harvested directly from leukemia patients. The treatment is untraceable a few days after treatment.

APPLICATIONS
Treatment for acute myeloid leukemia (AML)

INTELLECTUAL PROPERTY RIGHTS
A European patent application was filed in December 2018, covering the general concept of the method and specific uses.

COMMERCIAL PERSPECTIVES
Current treatments used for AML include chemotherapy and bone marrow transplants, but these save fewer than one in three patients, creating a key unmet need.

Our current value proposition is that the technology suppresses the specific growth of cancer cells and not other cells. The technology was efficient in disrupting the target gene when applied to primary human leukemia cells. In addition, the approach does not introduce foreign genomic material insertions which are known to frequently cause treatment-induced cancers.

Lastly, the technology targets the genomes of cancer cells. It is therefore unlikely that cancers cells can become resistant to the treatment. The research team is considering other oncogenic genes to expand application of the technology.

BUSINESS OPPORTUNITY
The researchers are seeking partnership opportunities with the industry or may consider a start-up strategy combined with a partnering approach.

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