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## **AzaCAR4AML - Synergistic Targeting of Acute Myeloid Leukemia with Azacytidine and gene-edited CD123-CAR NK Cells**

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The AzaCAR4AML consortium is preparing a clinical cell therapy trial using genetically modified and gene-edited natural killer (NK) cells to treat acute myeloid leukaemia (AML).

Members of the consortium discovered that hypomethylating drugs such as 5'-azacytidine (AZA) induce the expression of leukaemia-associated antigens on AML blasts, such as CD123, thereby sensitising leukaemia cells to apoptosis. The scientists are developing a combination therapy of pre-treatment with AZA with advanced CAR-NK cell therapy. In addition to optimising the manufacturing platform for CD123 CAR-NK products, novel technologies are being used to knock out genes encoding immune checkpoint inhibitors, thereby increasing the anti-leukaemic efficacy of CAR-NK cells.

With this multi-modal therapeutic approach, the project is paving the way for a future Phase I/II clinical trial for the effective treatment of AML.

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