

PROJECT TITLE

Development of a personalized epigenetic maintenance approach for AML and MDS patients after allogeneic stem cell transplantation

PRINCIPAL INVESTIGATOR

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SCIENTIFIC SUMMARY

Acute myeloid leukemia (AML) is an aggressive cancer of the blood system. Despite advances in treatment, only 21 percent of patients survive more than five years. If an allogeneic stem cell transplant can be performed, the five-year survival rate improves to 30-50 per cent. Despite this treatment's effectiveness, many patients relapse. In these patients, AML returns aggressively and is associated with shorter survival. The LSD1 enzyme (protein) is a promising new target for treating AML. Blocking this enzyme can change the way malignant blood cells behave, destroy malignant stem cells, and even activate an immune response against malignant cells. This study investigates a drug that blocks LSD1's functions in the cell to see if it can prevent relapse after stem cell transplant. The Berg team will also study the features in leukemia that may be used as biomarkers and may allow them to identify patient groups who will benefit from this approach.