Team publishes new study on murine model for human early/immature T-cell precursor acute lymphoblastic leukemia

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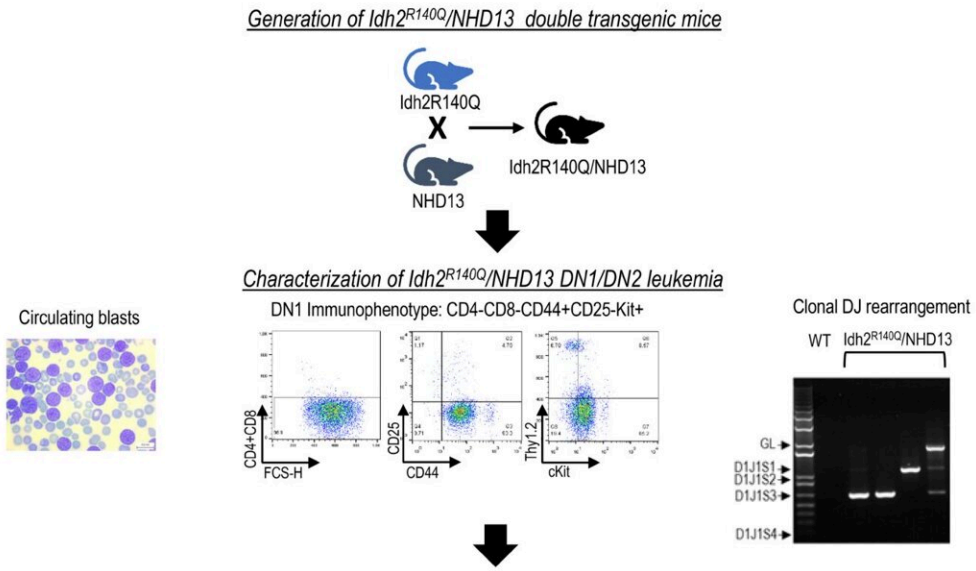

Figure 1 (truncated): Idh2R140Q/NHD13 double transgenic mice develop EITP ALL resembling the human disease. Credit: 2022 Negi and Aplan

A new research perspective titled "A murine model for human early/immature T-cell precursor acute lymphoblastic leukemia (EITP ALL)" has been published in *Oncoscience*.

In this research perspective, researchers Vijay Negi and Peter D. Aplan

from the National Institutes of Health's National Cancer Institute discuss early/immature T cell precursor acute lymphoblastic leukemia (EITP ALL). EITP ALL represents a subset of human leukemias distinct from other T-ALL, and associated with poor prognosis. Clinical studies have identified chromosomal translocations involving the NUP98 gene and point mutations of IDH genes as recurrent mutations in patients with EITP-ALL.

"In a recent study using genetically engineered mice, we demonstrated that cooperation of an Idh2R140Q mutation with a NUP98-HOXD13 (NHD13) fusion gene resulted in EITP-ALL," the researchers write.

Highlights of this double transgenic mouse model include the similarity of the immunophenotypic, mutational and gene expression landscape with human EITP-ALL. Additional studies showed that the Idh2R140Q/NHD13 EITP-ALL are sensitive to selective mutant IDH2 inhibitors in vitro, leading to the possibility that these mice can serve as a useful model for the study of EITP ALL development and therapy.

"We predict that the Idh2R140Q/NHD13 mouse model will serve as an excellent tool to study EITP biology and identify therapies for patients with EITP leukemia," conclude the researchers.

More information: Vijay Negi et al, A murine model for human early/immature T-cell precursor acute lymphoblastic leukemia (EITP ALL), *Oncoscience* (2022). DOI: 10.18632/oncoscience.567

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