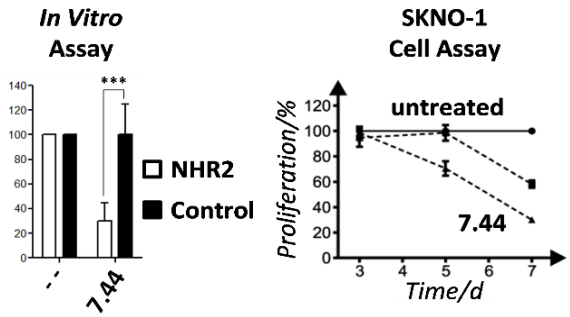
# NHR2 inhibitors

## Treatment of AML by inhibitors of NHR2 and/or RUNX1/ETO-tetramerization

### Invention

The formation and onset of the prevalent form of acute myeloid leukemia (AML, FAB subtype M2) requires RUNX1/ETO, the product of the t(8;21) chromosomal translocation. Tetramerization through the nervy homology region 2 (NHR2) of ETO is essential for the RUNX1/ETO-mediated transformation. The inventors demonstrated that inhibition of NHR2 tetramerization by first-in-class small molecules is a viable entry point for the treatment of AML. Drug candidates have been identified by asmall-molecule in silico screening and have been validated in cellular assays. Several compounds proved to be successful in inhibiting NHR2 tetramerization. Preferred compound 7.44 was able to slow tumor growth in a xenograft mouse model (SKNO 1 xenograft).




Activity of 7.44 vs. control in biochemical and cellular assay

### Commercial Opportunities

On behalf of the University of Düsseldorf, PROvendis offers this opportunity for licensing or co-development.

### Current Status

A PCT application has been filed; WO2014177464 A2.

### Relevant Publications


Wichmann et al.: Dimer-tetramer transition controls RUNX1/ETO leukemogenic activity, Blood 2010, 116(4), 603-613.

Metz et al.: From Determinants of RUNX1/ETO Tetramerization to Small-Molecule Protein-Protein Interaction Inhibitors Targeting Acute Myeloid Leukemia, J. Chem. Inf. Model. 2013, 53(9), 2197-202.

Schanda et al.: Suppression of RUNX1/ETO oncogenic activity by a small molecule inhibitor of NHR2 tetramerization, manuscript available upon request.


An invention of the Heinrich Heine University Düsseldorf.

### Competitive Advantages

- Compounds for treatment of AML
- Unique mode of action
- Medical use/compound protection achievable
- In vivo data from mouse model available
- Access to inventor Know-how

### Technology Readiness Level

1 2 3 4 5 6 7 8

Technology validated in lab

### Industries

- Chemical Industry
- Pharmaceutical Industry

### Ref. No.

3409

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