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# Nalm6 Human Pre-B Cell Lines Expressing Aid Or Cas9

Tech ID: 34169 / UC Case 2025-811-0

## BRIEF DESCRIPTION

Innovative cell lines enabling precise genetic modifications to advance research in gene function, disease modeling, and potential therapeutic interventions.

## FULL DESCRIPTION

This technology involves the development of Nalm6 human pre-B cell lines that have been genetically engineered to express either activation-induced cytidine deaminase (AID) or CRISPR-associated protein 9 (Cas9). Utilizing lentiviral transduction for the introduction of these systems, these cell lines offer a reliable platform for genetic studies, particularly in the context of gene editing and mutation induction. The creation of these cell lines addresses the challenge of transfecting human pre-B cells, offering an efficient and reproducible method for genetic manipulation.

## SUGGESTED USES

- » Research tools for studying gene function, mutation effects, and disease mechanisms in human B cells.
- » Platforms for drug discovery and development, particularly for conditions involving B cells such as certain blood cancers.
- » Diagnostic development for identifying genetic risk factors associated with B cell malignancies and other diseases.
- » Therapeutic applications, including the potential for developing gene therapy strategies targeting specific genetic alterations in B cells.

## ADVANTAGES

- » Overcomes the difficulty of transfecting human pre-B cells, a significant barrier in genetic research.
- » Enables precise genetic modifications using doxycycline-inducible AID or constitutively expressed Cas9.
- » Facilitates the study of gene function and mutation effects with high efficiency and reproducibility.
- » Potential for early detection of cancers and reduction of associated health disparities.
- » Supports the development of personalized medicine approaches by enabling detailed genetic analyses.

## RELATED MATERIALS

- » Rangle, V., Sterrenberg, J. N., et al. Pannunzio, N. R. (2024). Increased AID results in mutations at the CRLF2 locus implicated in Latin American ALL health disparities. Nat. Commun. 15 (1).

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## OTHER INFORMATION

## CATEGORIZED AS

- » **Biotechnology**
  - » Health
- » **Materials & Chemicals**
  - » Biological
- » **Medical**
  - » Diagnostics
  - » Disease: Blood and Lymphatic System
  - » Disease: Cancer
  - » Gene Therapy
  - » Research Tools
  - » Therapeutics
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  - » Cell Lines
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