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).

CONTACT

Patricia H. Chan
patricia.chan@uci.edu
tel: 949-824-6821.



OTHER INFORMATION

CATEGORIZED AS

» **Biotechnology**
» Health
» **Materials & Chemicals**
» Biological
» **Medical**
» Diagnostics
» Disease: Blood and Lymphatic System
» Disease: Cancer
» Gene Therapy
» Research Tools
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5270 California Avenue / Irvine,CA
92697-7700 / Tel: 949.824.2683

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