Product sheet

MINO Cells | 305513

General information

Description	The MINO cell line is a human-derived model of mantle cell lymphoma (MCL), a rare and aggressive subtype of B-cell non-Hodgkin lymphoma. This cell line was established from a 64-year-old female patient with advanced MCL. It is characterized by overexpression of cyclin D1 due to the chromosomal translocation t(11;14)(q13;q32), a hallmark of MCL. MINO cells exhibit a CD5+CD20+CD23? immunophenotype, consistent with MCL diagnosis, and show additional genetic alterations, including hyperdiploidy and a TP53 mutation at codon 147 (valine to glycine), which may contribute to its pathogenesis. MINO cells grow as single cells or in small clumps and demonstrate features typical of MCL, such as high levels of phosphorylated retinoblastoma protein (pRB) and expression of anti-apoptotic proteins like Bcl-2 and Bcl-xL. These cells have been used to study the molecular mechanisms underlying MCL progression and resistance to therapy. In particular, studies have shown that cyclin D1 plays a role in promoting cell cycle progression and evasion of apoptosis by interacting with pro-apoptotic proteins like Bax, favoring lymphoma cell survival. The MINO cell line is a valuable tool for preclinical research, including drug testing and genetic studies. It has been employed in evaluating targeted therapies that inhibit cyclin D1 activity or disrupt pathways critical to MCL survival, such as the PI3K/Akt and Bcl-2 pathways. This cell line continues to contribute to understanding MCL biology and improving therapeutic strategies for this challenging disease.
Organism	Human
Tissue	Peripheral blood
Disease	Mantle cell lymphoma
Synonyms	Mino

Characteristics

Age	68 years
Gender	Male
Ethnicity	Caucasian
Morphology	Lymphoblast-like
Cell type	Lymphoblast
Growth properties	Suspension

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Regulatory Data

Citation	MINO (Cytion catalog number 305513)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1872

Biomolecular Data

Mutational profile	Mutation: CDKN2A, p.Glu88Lys (c.262G>A), homozygous; Mutation: NRAS, p.Gly13Asp (c.38G>A), heterozygous; Mutation: p.Val147Gly (c.440T>G), homozygous

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Split ratio	A ratio of 1:5 to 1:10 is recommended for routine culture.
Seeding density	6 x 10^4 cells/mL
Freeze medium	As a cryopreservation medium, use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

Quality Control & Molecular Analysis

Sterility	Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods. To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.