Product sheet

TMD8 Cells | 305729

Description	The TMD8 cell line is a human diffuse large B-cell lymphoma (DLBCL) model representative of the activated B-cell-like (ABC) subtype. This subtype is characterized by constitutive activation of the NF-κB pathway, which is essential for cell survival. TMD8 exhibits wild-type CARD11, yet maintains strong NF-κB activity, indicating a dependency on chronic active B-cell receptor (BCR) signaling. This dependency is supported by experimental evidence showing that knockdown of BCR pathway components—including BTK, CD79A, CD79B, and IgM—leads to cell death in TMD8 cells. Additionally, TMD8 harbors a Y196H mutation in the ITAM domain of CD79B, a mutation commonly found in ABC-DLBCLs that enhances surface BCR expression and attenuates negative feedback from Lyn kinase, thus promoting sustained signaling activity. TMD8 cells also demonstrate notable sensitivity to BCL-2 inhibition via venetoclax when expressing high levels of the BCL-2 protein. However, resistance to venetoclax in such cells can be mediated by activation of the PI3K/AKT pathway, particularly following prolonged drug exposure. This resistance mechanism involves a reduction in PTEN expression and increased AKT phosphorylation. TMD8 cells with acquired resistance to venetoclax exhibit heightened susceptibility to pharmacological PI3K/AKT pathway inhibition, making them a suitable model for studying therapeutic combinations aimed at overcoming resistance in aggressive B-cell lymphomas.
Organism	Human
Tissue	Bone marrow
Disease	Diffuse large B-cell lymphoma activated B-cell type
Synonyms	TMD-8, Tokyo Medical and Dental university 8

Age	62 years
Gender	Male
Ethnicity	Japanese
Growth properties	Suspension

Citation	TMD8 (Cytion catalog number 305729)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_A442
Mutational profile	Mutation: CD79B, Simple, p.Tyr196His (c.586T>C), Heterozygous, M yearsD88, Simple, p.Leu252Pro (c.755T>C) (L265P), Heterozygous
Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 10% FBS
Doubling time	~30 hours
Freeze medium	As a cryopreservation medium, we 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.

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Thawing and Culturing Cells

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. Upon receipt, either store the cryovial immediately at temperatures below -150°C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
3. For immediate culturing, swiftly thaw the vial by immersing it in a 37°C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
7. Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

Incubation Atmosphere

37°C, 5% CO_2, humidified atmosphere.

Shipping Conditions

Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.

Storage Conditions

For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

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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.