Product sheet

Kasumi-1 Cells | 300226

General information

Description	The Kasumi-1 cell line was derived from the peripheral blood of a 7-year-old Japanese boy with acute myeloid leukemia (AML), specifically the FAB M2 subtype, during a relapse following bone marrow transplantation. This cell line is a valuable resource for researchers studying hematologic malignancies, especially those involving the t(8;21) chromosomal translocation. This translocation leads to the formation of the AML1-ETO fusion gene, a critical factor in certain subtypes of AML. Kasumi-1 cells thus serve as an essential model for investigating the molecular mechanisms of AML and testing potential therapeutic approaches. Kasumi-1 cells possess characteristics of both myeloid and macrophage lineages, making them particularly useful for studies on myeloid differentiation. These cells can be induced to differentiate into macrophage-like cells when cultured with phorbol 12-myristate 13-acetate (TPA), providing a robust system for exploring the pathways involved in myeloid lineage commitment and differentiation. This differentiation capacity enhances the utility of Kasumi-1 cells in research focused on both AML biology and broader myeloid cell development processes.
Organism	Human
Tissue	Blood
Disease	Acute myeloblastic leukemia
Synonyms	KASUMI-1, Kasumi 1, KASUMI1, Kasumi1

Characteristics

Age	7 years
Gender	Male
Ethnicity	Japanese
Morphology	Round cells showing marked variations in both size and nuclear cytoplasmic ratio.
Cell type	Myeloblast (AML-acute myeloid leukemia)
Growth properties	Suspension

Regulatory Data

Citation	Kasumi-1 (Cytion catalog number 300226)

Kasumi-1 Cells | 300226

Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0589

Biomolecular Data

Antigen expression	CD4+ (37.1%, coexpressed with CD34 and CD33), CD13+(OKM13), CD15+(LeuM1), CD33+, CD34+(MY10), CD38+(OKT10, 50.1%), CD71+(Nu-TERf), HLA-DR+(OKDR).
Karyotype	t(8,21) chromosome translocation

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Doubling time	40 to 45 hours
Subculturing	Maintain cultures by periodically adding or replacing the medium. Initiate cultures with a density of 2 x 10^5 cells/ml and keep the cell concentration within the range of 1 x 10^5 to 1 x 10^6 cells/ml for optimal growth.
Split ratio	A ratio of about 1:2 to 1:3 every 3 to 4 days is recommended
Seeding density	1 x 10^5 cells/ml
Fluid renewal	Add fresh medium (20 to 30% by volume) every 2 to 3 days
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.

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STR profile	**Amelogenin**: x,x **CSF1PO**: 10,12 **D13S317**: 11,13 **D16S539**: 9,12 **D5S818**: 9,11 **D7S820**: 8,11 **TH01**: 6,9 **TPOX**: 8,9 **vWA**: 14 **D3S1358**: 15,17 **D21S11**: 30,31 **D18S51**: 15,16 **Penta E**: 11 **Penta D**: 12 **D8S1179**: 13,14 **FGA**: 22,24
HLA alleles	**A***: '26:01:01, '26:02:01 **B***: '40:06:01, '48:01:01 **C***: '03:03:01, '08:01:01 **DRB1***: '09:01:02, '14:54:01 **DQA1***: '01:04:01, '03:02:01 **DQB1***: '03:03:02, '05:03:01 **DPB1***: '02:01:02, '02:01:02 **E**: '01:03:01