Product sheet

KU-19-19 Cells | 305517

General information

Description	KU-19-19 is a human bladder carcinoma cell line established from an adult male patient with metastatic transitional cell carcinoma of the bladder. The cell line exhibits epithelial morphology and grows adherently under standard culture conditions. KU-19-19 has been characterized as a constitutive producer of multiple hematopoietic growth factors, demonstrating robust cytokine secretion activity in vitro. Conditioned medium derived from KU-19-19 cultures strongly stimulates proliferation of growth factor-dependent hematopoietic cell lines, indicating functional secretion of biologically active cytokines. Biochemical analyses of KU-19-19-conditioned medium have documented high levels of granulocyte colony-stimulating factor (G-CSF), exceeding 5 ng/mL, along with detectable secretion of granulocyte-macrophage colony-stimulating factor (GM-CSF), macrophage colony-stimulating factor (M-CSF), stem cell factor (SCF), interleukin-6 (IL-6), and interleukin-8 (IL-8). Functional proliferation assays using cytokine-dependent leukemia cell lines, including myeloid and megakaryocytic models, have confirmed that KU-19-19-derived factors significantly enhance DNA synthesis as measured by thymidine incorporation. The proliferative response is dose-dependent and observed across a broad panel of hematopoietic cell lines, underscoring the biological potency of secreted factors. Cytokine production in KU-19-19 cells is modulated by external stimuli. Short-term exposure to phorbol ester (TPA), interleukin-1β, or interferon-γ results in increased secretion of G-CSF, GM-CSF, and M-CSF, demonstrating that multiple regulatory signaling pathways control cytokine expression in this model. These properties make KU-19-19 a valuable in vitro system for studying tumor-derived cytokine production, tumor-hematopoietic cell interactions, and the regulation of growth factor secretion in bladder carcinoma.
Organism	Human
Tissue	Urinary bladder
Disease	Bladder carcinoma
Synonyms	KU 19-19, KU19-19, KU1919, Keio University-19-19

Characteristics

Age	76 years
Gender	Male
Ethnicity	Japanese
Growth properties	Adherent

Regulatory Data

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Citation	KU-19-19 (Cytion catalog number 305517)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1344

Biomolecular Data

Mutational profile	Mutation: p.Glu17Lys, Unspecified

Handling

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% heat-inactivated FBS
Doubling time	~48 hours
Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium. 7. Follow the procedure described under Post-Thaw Recovery
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.

Quality Control & Molecular Analysis