KU-19-19

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.

Tissue	Urinary bladder
Disease	Bladder carcinoma

Synonyms

- KU 19-19
- KU19-19
- KU1919
- Keio University-19-19

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Doubling time	~48 hours

IDENTIFIERS

Citation

KU-19-19 (Cytion catalog number 305517)

NCBI TaxID	9606
Cellosaurus	CVCL_1344

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: p.Glu17Lys, Unspecified

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

Supplement the medium with 10% heat-inactivated FBS

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
Follow the procedure described under Post-Thaw Recovery

QUALITY CONTROL AND CRYOPRESERVATION

Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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.

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.

DONOR

Donor age	76 years
Ethnicity	Japanese

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes

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