Immortalized HK/FDC

300205

GENERAL INFORMATION

Description

The immortalized HK/FDC cell line is a genetically stabilized derivative of the original HK follicular dendritic cell-like cells, retaining key phenotypic and functional characteristics while enabling extended propagation without the senescence-associated limitations of the parental culture. Immortalization was achieved through the introduction of defined genetic elements that bypass replicative arrest, facilitating consistent long-term studies of germinal center biology and FDC-B cell interactions.
Immortalized HK/FDC cells maintain the capacity to bind and co-stimulate germinal center B cells, promote their survival, and enhance their proliferation in the presence of signals such as anti-IgM or CD40 ligation. Importantly, they continue to express adhesion molecules and costimulatory factors characteristic of FDCs, including VCAM-1 and ICAM-1, and secrete soluble mediators that mimic the microenvironmental support provided by native FDCs. These properties make the immortalized HK/FDC line a robust and reproducible model for dissecting the cellular and molecular mechanisms governing B cell maturation, affinity selection, and survival within the germinal center.

Tissue	Tonsil
Disease	Follicular dendritic reticulum
Metastatic site	Not applicable (follicular dendritic cell line; tonsil-derived)

Applications

Germinal center B cell biology; FDC-B cell interaction; B cell survival and proliferation; lymphoma/leukemia feeder cell assays; virus infection of FDCs

CLASSIFICATION

Organism	Human
Sex	Unspecified
Growth properties	Adherent
GMO status	GMO-S1

GMO status details

GMO-S1: This immortalized HK/FDC line contains an immortalizing construct (Cytion/Inscreenex). This classification applies only within Germany and may differ elsewhere.

Biosafety level	1

CHARACTERISTICS

Morphology	Fibroidal
Cell type	Follicular dendritic cell
Doubling time	approx. 24 to 48 hours

IDENTIFIERS

Citation

Immortalized HK/FDC (Cytion catalog number 300205)

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NCBI TaxID	9606
Cellosaurus	CVCL_IY38

EXPRESSION AND SUSCEPTIBILITY

Viruses

Cytion, immortalized by Inscreenex i.A.

HANDLING AND CULTURE

Culture medium

DMEM:Ham's F12 (1:1), w: 3.1 g/L Glucose, w: 2.5 mM L-Glutamine, w: 15 mM HEPES, w: 0.5 mM Sodium pyruvate, w: 1.2 g/L NaHCO3 (Cytion article number 820400a)

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

Supplements

Supplement the medium with 10% FBS

Dissociation reagent	Accutase
Split ratio	1 to 3
Seeding density	1 to 3 × 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week

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 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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	Child
Ethnicity	Caucasian

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