Product sheet

Kelly Cells | 300317

General information

Description	The Kelly cell line is a human neuroblastoma cell line derived from a tumor biopsy. Neuroblastoma is a malignant tumor that arises from neural crest cells, typically affecting children and infants. Kelly cells are utilized extensively in research due to their aggressive growth characteristics and their ability to differentiate into neuron-like cells under specific conditions. These cells exhibit properties typical of neuroblastoma, including high levels of MYCN amplification, which is associated with poor prognosis and aggressive tumor behavior. This makes the Kelly cell line a valuable model for studying the molecular mechanisms of neuroblastoma and for testing potential therapeutic agents. Kelly cells are adherent in culture and can grow in a monolayer, making them suitable for a wide range of experimental applications, including drug screening, gene expression studies, and investigations into cellular signaling pathways. They are particularly useful for studying the effects of MYCN-driven oncogenesis and for evaluating the efficacy of targeted therapies against neuroblastoma. The Kelly cell line also serves as a model for understanding the biology of neuroblastoma metastasis, as these cells have the capability to migrate and invade, reflecting the behavior of aggressive neuroblastoma in vivo. However, it is important to note that this cell line is not suitable for therapeutic or in vivo applications.
Organism	Human
Tissue	Brain
Disease	Neuroblastoma
Synonyms	KELLY, NB19, NB-19, NB19-RIKEN

Characteristics

Age	1 year
Gender	Female
Ethnicity	Caucasian
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	Kelly (Cytion catalog number 300317)
Biosafety level	1

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Expression / Mutation

Tumorigenic	Yes, in nude mice.
Viruses	Negative for HPV (Human Papilloma Virus)
Products	N-myc RnA

Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Doubling time	30 hours
Subculturing	Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.
Split ratio	A ratio of 1:6 to 1:8 is recommended
Seeding density	1 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

Quality control / Genetic profile / HLA

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**: 12 **D13S317**: 14 **D16S539**: 12,13 **D5S818**: 11,13 **D7S820**: 9 **TH01**: 9.3 **TPOX**: 8,10 **vWA**: 17,18 **D3S1358**: 14,16 **D21S11**: 28,30 **D18S51**: 14,17 **Penta E**: 12,16 **Penta D**: 9,14 **D8S1179**: 14 **FGA**: 20,21 **D1S1656**: 11,13 **D6S1043**: 12,13 **D2S1338**: 17,20 **D12S391**: 12,15.2 **D19S433**: 19,19.3
HLA alleles	**A***: 01:01:01 **B***: 08:01:01, 35:01:01 **C***: 04:01:01, 07:01:01 **DRB1***: 01:03:01, 03:01:01 **DQA1***: 01:01:01, 05:01:01 **DQB1***: 02:01:01, 05:01:01 **DPB1***: 04:01:01G, 04:02:01G **E**: 01:01:01