Product sheet

HCC1937 Cells | 305064

General information

Description	HCC1937 is a human breast carcinoma cell line derived from a primary tumor of an adult female. This cell line exhibits several genetic alterations characteristic of aggressive breast cancer phenotypes, including a homozygous mutation in the BRCA1 gene (5382C mutation), which is a notable marker for predisposition to breast cancer. The presence of this mutation aligns with a familial pattern of breast cancer as it is also detected in other family members, indicating a hereditary aspect to the malignancy. Additionally, HCC1937 has an acquired mutation in the TP53 gene coupled with the loss of the wild-type allele, further compounding its tumor suppressor deficiencies. The cell line also displays a homozygous deletion of the PTEN gene and exhibits loss of heterozygosity at multiple loci involved in cancer pathogenesis, suggesting a complex genetic background conducive to oncogenic transformation. From a phenotypic perspective, HCC1937 does not express the estrogen receptor (ER) or progesterone receptor (PR), categorizing it as ER-negative and PR-negative, which are typical markers for more aggressive disease courses. Moreover, the cells do not express Her2-neu and p53, but are positive for epithelial glycoprotein 2 (EGP2) and cytokeratin 19, which are indicative of their epithelial origin and malignant nature. The specific marker profile and genetic makeup make HCC1937 a valuable model for studying the molecular mechanisms of breast cancer and testing targeted therapies for similar aggressive breast cancer profiles.
Organism	Human
Tissue	Mammary gland, breast, duct
Disease	Breast ductal carcinoma
Synonyms	HCC-1937, HCC/1937

Characteristics

Age	23 years
Gender	Female
Ethnicity	European
Morphology	Epithelial
Growth properties	Adherent

Regulatory Data

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Citation	HCC1937 (Cytion catalog number 305064)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0290

Biomolecular Data

Receptors expressed	Estrogen receptor, negative, progesterone receptor, negative
Protein expression	Epithelial Glycoprotein 2(Egp2), Cytokeratin 19

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% FBS
Dissociation Reagent	Accutase
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.
Fluid renewal	2 to 3 times per week
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.

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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 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium. 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.
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

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.