HCC1569

305784

GENERAL INFORMATION

Description

HCC1569 is a human breast cancer cell line derived from a primary ductal carcinoma. It exhibits a basal-like phenotype and is characterized as estrogen receptor (ER)-negative and HER2-positive, a molecular subtype with distinct clinical and therapeutic implications. Like other basal-like breast cancers, HCC1569 lacks expression of ER and progesterone receptor (PR), but it displays amplification and overexpression of the ERBB2 (HER2) oncogene, a key target for HER2-directed therapies. The cell line demonstrates a high degree of aneuploidy and harbors multiple genomic alterations relevant to breast cancer biology.
HCC1569 is included in large-scale genomic profiling efforts such as the Cancer Cell Line Encyclopedia (CCLE) and related studies that integrate mutational, copy number, methylation, and expression data. These datasets have shown that HCC1569 carries structural variants and copy number amplifications consistent with aggressive breast tumors, including those involving HER2. Functional genomic screens have highlighted the dependency of this cell line on HER2 signaling pathways, supporting its use in evaluating HER2-targeted therapies and resistance mechanisms.
Additionally, HCC1569 has been characterized for its HLA genotype and expression profile, which has implications for immunotherapy development. It is included in catalogs of HLA typing and neoantigen prediction, offering opportunities for exploring T cell epitope presentation and immune recognition in HER2-positive breast cancer contexts. This immunogenomic annotation makes HCC1569 a valuable resource not only for studying oncogenic signaling but also for evaluating tumor-immune interactions and designing personalized immunotherapies.

Tissue	Breast
Disease	Breast ductal carcinoma

Synonyms

- HCC-1569
- Hamon Cancer Center 1569

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial
Cell type	Epithelial cell

Karyotype

Polyploid

Doubling time	45 hours

IDENTIFIERS

Citation

HCC1569 (Cytion catalog number 305784)

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NCBI TaxID	9606
Cellosaurus	CVCL_1255

EXPRESSION AND SUSCEPTIBILITY

Protein expression

Estrogen receptor, negative; progesterone receptor, negative

Antigen expression

Epithelial glycoprotein 2 (EGP2); cytokeratin 19

Oncogenes

Her2/neu+; p53-

Mutational profile

Mutation: BRCA2, Simple, p.Asn1100Thr (c.3299A>C), Heterozygous, BRCA2, Simple, p.Val1862fs*1 (c.5578delA), Heterozygous, FHIT, Simple, p.Val97Phe (c.289G>T) (651G>T), dbSNP=rs139666727, Heterozygous, Note=Germline. Mutation, PTEN, Simple, p.Lys267Argfs*9 (c.800delA) (p.Leu265fs, c.795delA), Heterozygous, TP53, Simple, p.Glu294Ter (c.880G>T), Heterozygous

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% FBS

Dissociation reagent	Accutase
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	70 years
Ethnicity	African American

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.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

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