Product sheet

HCC1569 Cells | 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.
Organism	Human
Tissue	Breast
Disease	Breast ductal carcinoma
Synonyms	HCC-1569, Hamon Cancer Center 1569

Characteristics

Age	70 years
Gender	Female
Ethnicity	African American
Morphology	Epithelial
Cell type	Epithelial cell

HCC1569 Cells | 305784

Growth properties	Adherent

Regulatory Data

Citation	HCC1569 (Cytion catalog number 305784)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1255

Biomolecular Data

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
Karyotype	Polyploid

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
Doubling time	45 hours

HCC1569 Cells | 305784

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.
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.