Product sheet

HCC1588 Cells | 305470

General information

Description	HCC1588 is a human breast cancer cell line derived from a patient with primary breast carcinoma and is classified within the basal-like subtype of breast cancer. This cell line is representative of triple-negative breast cancer (TNBC), lacking expression of estrogen receptor (ER), progesterone receptor (PR), and HER2 amplification. As a basal-like model, HCC1588 exhibits molecular characteristics associated with aggressive tumor behavior, including high proliferative capacity, genomic instability, and enrichment of gene expression programs linked to epithelial-to-mesenchymal transition and stem-like phenotypes. Molecular profiling of large cancer cell line panels has demonstrated that breast cancer cell lines such as HCC1588 contribute to the diversity of genomic and transcriptomic alterations used to model tumor heterogeneity and therapeutic response. Across integrated pharmacogenomic studies, cancer cell lines recapitulate key oncogenic alterations observed in primary tumors and are routinely used to correlate genetic features with drug sensitivity across hundreds of compounds. In addition, standardized annotation and authentication frameworks emphasize the importance of consistent molecular characterization, including short tandem repeat and SNP profiling, to ensure reproducibility and accurate lineage classification in widely used models such as HCC1588. Functionally, HCC1588 is frequently employed in studies investigating mechanisms of tumor progression, DNA damage response, and resistance to chemotherapeutic and targeted agents in triple-negative breast cancer. Its basal-like phenotype and lack of hormone receptor signaling make it particularly valuable for evaluating novel therapeutic strategies aimed at aggressive, treatment-refractory breast cancer subtypes.
Organism	Human
Tissue	Lung
Disease	Lung squamous cell carcinoma
Synonyms	HCC-1588, Hamon Cancer Center 1588

Characteristics

Age	63 years
Gender	Female
Ethnicity	African American
Growth properties	Adherent

Regulatory Data

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Citation	HCC1588 (Cytion catalog number 305470)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_A351

Biomolecular Data

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
Seeding density	1 to 3 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium. 7. Follow the procedure described under Post-Thaw Recovery
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