# HCC1187

305781

## GENERAL INFORMATION

### Description

HCC1187 is a human breast carcinoma cell line established from a primary ductal breast tumor of an adult patient. It exhibits a triple-negative phenotype, lacking expression of estrogen receptor (ER), progesterone receptor (PR), and HER2, which is characteristic of basal-like breast cancers. HCC1187 is part of a panel of cell lines developed to represent the molecular diversity of breast cancers, and has been extensively profiled in multiple large-scale genomic and proteomic studies including the Cancer Cell Line Encyclopedia (CCLE) and The Cancer Genome Atlas (TCGA)-aligned analyses.

This cell line displays complex genomic alterations commonly observed in high-grade breast tumors, such as copy number variations and a high burden of somatic mutations. Proteomic analyses reveal that HCC1187 has a proteomic profile aligned with basal-like breast tumors, including elevated expression of cytokeratins associated with basal epithelial cells and low levels of luminal markers. Quantitative proteomics also show that HCC1187 clusters with other triple-negative breast cancer (TNBC) lines based on pathway-level protein expression, demonstrating dysregulation in pathways related to DNA damage repair, cell cycle progression, and apoptosis. These properties position HCC1187 as a valuable model for studying TNBC biology and testing targeted therapeutics for basal-like or BRCA1-deficient breast cancer subtypes.

HCC1187 has also been included in comprehensive mutational studies of breast cancer, contributing to the understanding of mutation frequency patterns and the landscape of driver versus passenger mutations. Studies have shown that although individual tumors harbor numerous mutations, only a subset significantly contributes to cancer progression. In HCC1187, several such driver mutations and pathway alterations have been identified, making it a key model for exploring the genetic basis of tumorigenesis and for developing personalized therapeutic approaches.

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| **Tissue** | Breast |
| **Disease** | Breast ductal carcinoma |

### Synonyms

- HCC-1187
- Hamon Cancer Center 1187

## CLASSIFICATION

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| **Organism** | Human |
| **Sex** | Female |
| **Growth properties** | Adherent |
| **Biosafety level** | 1 |

## CHARACTERISTICS

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| **Morphology** | Epithelial |
| **Cell type** | Epithelial cell |
| **Tumourigenic** | Yes, the tumor was classified as TNM stage IIA, grade 3, invasive ductal carcinoma. |
| **Doubling time** | 100 hours |

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## IDENTIFIERS

**Citation**

HCC1187 (Cytion catalog number 305781)

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| **NCBI TaxID** | 9606 |
| **Cellosaurus** | CVCL_1247 |

## EXPRESSION AND SUSCEPTIBILITY

**Protein expression**

Progesterone receptor, negative

**Antigen expression**

Epithelial glycoprotein 2 (EGP2); cytokeratin 19

**Oncogenes**

Her2/neu-; p53+

**Mutational profile**

Mutation: TP53, Simple, p.Gly108del (c.322_324delGGT), Homozygous (Cosmic-CLP=749711)

## HANDLING AND CULTURE

**Culture medium**

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

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| **Incubation atmosphere** | 37°C, 5% $CO_2$, humidified atmosphere. |

**Supplements**

Supplement the medium with 10% FBS

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| **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.

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| **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

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| **Donor age** | 41 years |
| **Ethnicity** | Caucasian |

## 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.

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| **Material Transfer Agreement required** | Yes |