Product sheet

BT-20 Cells | 300130

General information

Description	This breast tumor line was established by E.Y. Lasfargues and L. Ozzello in 1958 by isolation and cultivation of cells spilling out of the tumor when it was cut in thin slices. TNF-alpha (tumor necrosis factor alpha) inhibits the proliferation of BT-20 cells. BT-20 cells are negative for estrogen receptor, but express an estrogen receptor mRNA that has deletion of exon 5.
Organism	Human
Tissue	Breast, mammary gland
Disease	Invasive ductal carcinoma
Synonyms	BT 20, BT20

Characteristics

Age	74 years
Gender	Female
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Monolayer, adherent

Identifiers / Biosafety / Citation

Citation	BT-20 (Cytion catalog number 300130)
Biosafety level	1

Expression / Mutation

Antigen expression	HLA A1, Bw16 (+/-)
Isoenzymes	PGM3, 1, PGM1, 1, ES-D, 1, AK-1, 1-2, G6PD, B, GLO-1, 1-2, Phenotype Frequency Product: 0.0115

Oncogenes	wnt4 +, wnt7h +
Tumorigenic	Yes, in nude mice. Forms grade II adenocarcinomas
Reverse transcriptase	negative
Mutational profile	TP53 mut
Karyotype	modal number = 50, many markers with large subtelocentrics most characteristic. (P87) Hyperdiploid with abnormalities including fragmented chromosomes, breaks, secondary constrictions, translocations, submetacentric and telocentric markers

Handling

Culture Medium	DMEM:Ham's F12, w: 3.1 g/L Glucose, w: 1.6 mM L-Glutamine, w: 15 mM HEPES, w: 1.0 mM Sodium pyruvate, w: 1.2 g/L NaHCO3 (Cytion article number 820400a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	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.
Split ratio	A ratio of 1:2 to 1:4 is recommended
Seeding density	1 x 10^4 cells/cm^2 will yield in a confluent layer in about 6 days
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

Quality control / Genetic profile / HLA

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.

BT-20 Cells | 300130

STR profile	**Amelogenin**: x,x **CSF1PO**: 12 **D13S317**: 11 **D16S539**: 11, 14 **D5S818**: 12 **D7S820**: 10 **TH01**: 7, 9, 3 **TPOX**: 11 **vWA**: 16, 17 **D3S1358**: 17 **D21S11**: 28, 29 **D18S51**: 17 **Penta E**: 11, 13 **Penta D**: 10, 11 **D8S1179**: 12 **FGA**: 22, 24
HLA alleles	**A***: 24:02:01, 24:03:01 **B***: 15:01:01, 38:01:01 **C***: 03:03:01, 12:03:01 **DRB1***: 04:04:01, 13:01:01 **DQA1***: 01:03:01, 03:01:01 **DQB1***: 03:02:01G, 06:01:01G **E**: 01:01, 01:03