

Data Sheet

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| BCRJ Code: | 0259 |
| Cell Line: | TT |
| Species: | Homo sapiens |
| Vulgar Name: | Human |
| Tissue: | Thyroid/Medulla |
| Morphology: | Epithelial |
| Disease: | Carcinoma |
| Growth Properties: | Adherent |
| Sex: | Female |
| Age/Ethnicity: | 77 Year / Caucasian |
| Derivation: | The TT cell line was established by S.S. Leong, et al. from a specimen obtained by needle biopsy from a 77 year old female with thyroid medullary carcinoma. |
| DNA Profile: | Amelogenin: X CSF1PO: 10,13 D13S317: 11 D16S539: 12,13 D5S818: 12,13 D7S820: 10,12 THO1: 6,9 TPOX: 8,11 vWA: 16,18 |
| Tumor Formation:: | Yes, Tumors developed within 21 days at 100% frequency (5/5) in nude mice inoculated subcutaneously with 10(7) cells. |
| Products: | calcitonin; carcinoembryonic antigen (CEA) [21867] |
| Biosafety: | 1 |

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Additional Info:

TT cells continuously produce high levels of calcitonin and CEA. Immunoreactive calcitonin was found to be produced in cell culture at levels of 3900 pg/million cells and 7700 pg/million cells 24 and 72 hours respectively, after a medium change. CEA was found to accumulate to greater than 27 ng/million cells over a 72 hours period.

Culture Medium:

F-12K Medium (Kaighn's Modification of Ham's F-12 Medium) contains 2 mM L-glutamine and fetal bovine serum to a final concentration of 10%.

Subculturing:

Remove medium, and rinse with PBS without calcium and magnesium. Remove the solution and add an additional 1 to 2 mL of trypsin-EDTA solution. Allow the flask to sit at room temperature (or at 37°C) until the cells detach. Add fresh culture medium, aspirate and dispense into new culture flasks. Population Doubling Time: 83 hrs NOTE: For more information on enzymatic dissociation and subculturing of cell lines consult Chapter 12 in Culture of Animal Cells, a manual of Basic Technique by R. Ian Freshney, 6th edition, published by Alan R. Liss, N.Y., 2010.

Subculturing Medium Renewal:

Twice per week

Subculturing Subcultivation Ratio:

1:3 to 1:4 is recommended

Culture Conditions:

Atmosphere: air, 95%; carbon dioxide (CO₂), 5% Temperature: 37°C

Cryopreservation:

95% FBS + 5% DMSO (Dimethyl sulfoxide)

SAFETY PRECAUTION: It is strongly recommended to always wear protective gloves, clothing, and a full-face mask when handling frozen vials. Some vials may leak when submerged in liquid nitrogen, allowing nitrogen to slowly enter the vial. Upon thawing, the conversion of liquid nitrogen back to its gas phase may cause the vial to explode or eject its cap with significant force, creating flying debris.

1. Thaw the vial by gently agitating it in a 37°C water bath. To minimize contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 minutes).
2. Remove the vial from the water bath as soon as its contents are thawed and decontaminate it by dipping in or spraying with 70% ethanol. From this point, all operations must be performed under strict aseptic conditions.
3. For cells sensitive to DMSO, it is recommended to remove the cryoprotective agent immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL of complete culture medium and centrifuge at approximately $125 \times g$ for 5 to 7 minutes.
4. Discard the supernatant and resuspend the cell pellet in the recommended complete medium (see specific batch information for the appropriate dilution ratio).
5. Incubate the culture under appropriate atmospheric and temperature conditions (see "Culture Conditions" for this cell line).

NOTE: It is important to avoid excessive alkalinity of the medium during cell recovery. To minimize this risk, it is recommended to place the culture vessel containing the growth medium in the incubator for at least 15 minutes before adding the vial contents. This allows the medium to stabilize at its normal pH (7.0 to 7.6).

Thawing Frozen Cells:

References:

21867: . Advances in thyroid neoplasia, 1981. Rome: Field Educational Italia; 1981.

Depositors:

Rui Monteiro de Barros Maciel, Universidade Federal de São Paulo.

Cellosaurus:

[CVCL_1774](#)