BCRJ Code:	0232
Cell Line:	T84
Species:	Homo sapiens
Vulgar Name:	Human
Tissue:	Colon; Derived From Metastatic Site: Lung
Morphology:	Epithelial
Disease:	Coloretal Carcinoma
Growth Properties:	Adherent
Sex:	Male
Age/Ethinicity:	72 Year /
Derivation:	The T84 cell line is a transplantable human carcinoma cell line derived from a lung metastasis of a colon carcinoma in a 72-year-old male. Tumor tissue was inoculated subcutaneously and serially transplanted in BALB/c nude mice.
Applications:	The T84 cell line is a transplantable human carcinoma cell line. It is also a suitable transfection host.
DNA Profile:	Amelogenin: X CSF1PO: 10 D13S317: 9 D16S539: 10,11 D5S818: 12 D7S820: 8,10 THO1: 6,9 TPOX: 8,11 vWA: 17,18
Tumor Formation::	Yes, in nude mice (Tumors developed within 21 days at 100% frequency (5/5) in nude mice inoculated subcutaneously with 10(7) cells)
Products:	Carcinoembryonic antigen (CEA), 600ng/ml per 10Ecellsper 10 days; Keratin.
Biosafety:	1

Addtional Info:	The original histological characteristics of the colon carcinoma were maintained throughout transplantation in nude mice. After 23 passages in athymic mice, the T84 cell line was established. These cells grow to confluence as monolayers and exhibit tight junctions and desmosomes between adjacent cells. They have receptors for many peptide hormones and neurotransmitters and maintain vectorial electrolyte transport. This line exhibits tight junctions, and desmosomes between adjacent cells. The cells are positive for keratin by immunoperoxidase staining.
Culture Medium:	1:1 mixture of Dulbecco's modified Eagle's medium and F12 Medium containing 1% non-essential amino acids, 2 mM L-glutamine, 1 mM sodium pyruvate and fetal bovine serum to a final concentration of 5%.
Subculturing:	Volumes used in this protocol are for 75 cm2 flask; proportionally reduce or increase amount of dissociation medium for culture vessels of other sizes. Remove and discard culture medium. Briefly rinse the cell layer with PBS without calcium and magnesium to remove all traces of serum which contains trypsin inhibitor. Add 2.0 to 3.0 mL of Trypsin-EDTA solution to flask and observe cells under an inverted microscope until cell layer is dispersed (usually within 5 to 15 minutes). Note: To avoid clumping do not agitate the cells by hitting or shaking the flask while waiting for the cells to detach. Cells that are difficult to detach may be placed at 37°C to facilitate dispersal. Add 6.0 to 8.0 mL of complete growth medium and aspirate cells by gently pipetting. Add appropriate aliquots of the cell suspension to new culture vessels. Incubate cultures at 37°C. 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:	1:2 to 1:4
Culture Conditions:	Atmosphere: air, 95%; carbon dioxide (CO2), 5% Temperature: 37°C
Cryopreservation:	95% FBS + 5% DMSO (Dimethyl sulfoxide)

Thawing Frozen Cells:	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 × 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).
References:	Dharmsathaphorn K, et al. A human colonic tumor cell line that maintains vectorial electrolyte transport. Am. J. Physiol. 246: G204-G208, 1984. PubMed: 6141741 Murakami H, Masui H. Hormonal control of human colon carcinoma cell growth in serum-free medium. Proc. Natl. Acad. Sci. USA 77: 3464-3468, 1980. PubMed: 6932031 White LJ, et al. Attachment and entry of recombinant norwalk virus capsids to cultured human and animal cell lines. J. Virol. 70: 6589-6597, 1996. PubMed: 8794293 Cross References: Nucleotide (GenBank) : BE519991 EST-TIG1 cDNA from T84 cells Homo sapiens cDNA, mRNA sequence.
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