Data Sheet

BCRJ Code:	0425
Cell Line:	CFPAC-1
Species:	Homo sapiens
Vulgar Name:	Human
Tissue:	Pancreas
Cell Type:	Epithelial Cell
Morphology:	Epithelial
Disease:	Cystic Fibrosis; Ductal Adenocarcinoma
Growth Properties:	Adherent
Sex:	Male
Age/Ethinicity:	26 Year / White
Derivation:	This line was derived from a ductal adenocarcinoma (liver metastasis) from a patient with cystic fibrosis.
Applications:	3D cell culture; Genetic disorder research
DNA Profile:	Amelogenin: X,Y CSF1PO: 10 D13S317: 12 D16S539: 9,11 D5S818: 10,11 D7S820: 8,10 TH01: 8 TPOX: 8 vWA: 17 D3S1358: 16 D21S11: 30,31.2 D18S51: 12 Penta_E: 10,12 Penta_D: 11,13 D8S1179: 11,15 FGA: 21,22 D19S433: 13,15 D2S1338: 18,23
Tumor Formation::	Yes, in nude mice (passage 34); Metastic liver
Biosafety:	1

Addtional Info:	The cells exhibit ion transport activities consistent with cystic fibrosis and express the product of the CF gene (cystic fibrosis transmembrane regulator, CFTR). CFPAC-1 cells show no effect of cAMP agonists, adenyl cyclase stimulators or phosphodiesterase inhibitors on Cl- flux, but do respond to Ca++ ionophores with increase Cl- efflux. The cells have the most common form of the CF mutation, deletion of three nucleotides resulting in the absence of phenylalanine at position 508. CFPAC-1 cells have epithelial morphology and polarization with apical microvilli, tight junctions and gap junctions.
Culture Medium:	Iscove's Modified Dulbecco's Medium (IMDM) contains 4 mM L-glutamine, 4500 mg/L glucose and fetal bovine serum to a final concentration of 10%.
Subculturing:	Volumes are given for a 75 cm2 flask. Increase or decrease the amount of dissociation medium needed proportionally for culture vessels of other sizes. Remove and discard culture medium. Briefly rinse the cell layer with 0.25% (w/v) Trypsin- 0.53 mM EDTA solution to remove all traces of serum that 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.
Subculturing Medium Renewal:	Every 2 to 3 days
Subculturing Subcultivation Ratio:	1:3 to 1:10 is recommended
Culture Conditions:	Atmosphere: air, 95%; carbon dioxide (CO_2), 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:	Schoumacher RA, et al. A cystic fibrosis pancreatic adenocarcinoma cell line. Proc. Natl. Acad. Sci. USA 87: 4012-4016, 1990. PubMed: 1692630 McIntosh JC, et al. Pancreatic adenocarcinoma in a patient with cystic fibrosis. Am. J. Med. 85: 592, 1988. PubMed: 3177424
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