BCRJ Code:	0424
Cell Line:	ZR-75-1
Species:	Homo sapiens
Vulgar Name:	Human
Tissue:	Breast; Duct; Mammary gland
Cell Type:	Epithelial
Morphology:	Epithelial
Disease:	Ductal Carcinoma
Growth Properties:	Adherent
Sex:	Female
Age/Ethinicity:	63 Year / White
Applications:	3D cell culture Cancer research
DNA Profile:	Amelogenin: X CSF1PO: 10,11 D13S317: 9 D16S539: 11 D5S818: 13 D7S820: 10,11 TH01: 7,9.3 TPOX: 8 vWA: 16,18 D3S1358: 15,16 D21S11: 31 D18S51: 13,14 Penta_E: 7,14 Penta_D: 14 D8S1179: 11,13 FGA: 20,22 D19S433: 13,14 D2S1338: 16,25
Tumor Formation::	Yes; Yes, forms tumors in nude mice Metastatic: Ascites
Products:	Genes expressed: mucin (apomucin, MUC-1, MUC-2) Expression markers: Estrogen receptor, expressed Isoenzymes: G6PD, B
Biosafety:	1

Addtional Info:	The cells produce high levels of MUC-1 mucin mRNA, low levels of MUC-2 mRNA but do not express the MUC-3 gene.
Culture Medium:	RPMI 1640 with 2.0 mM L-glutamine adjusted to contain 4.5 g/L glucose, 1.0 mM sodium pyruvate and 10% of fetal bovine serum.
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. Corning T-75 flasks (catalog #430641) are recommended for subculturing this product. 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:	2 to 3 times per week
Subculturing Subcultivation Ratio:	1:4 to 1:6 is recommended
Culture Conditions:	Atmosphere: air, 95%; carbon dioxide (CO2), 5% Temperature: 37°C
Cryopreservation:	95% FBS + 5% DMSO (Dimethyl sulfoxide)

Thawing Frozen Cells:	SAFETY PRECAUTION: Is highly recommend that protective gloves and clothing always be used and a full face mask always be worn when handling frozen vials. It is important to note that some vials leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vessel exploding or blowing off its cap with dangerous force creating flying debris. 1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the Oring and cap out of the water. Thawing should be rapid (approximately 2 minutes). 2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions. 3. For cells that are sensitive to DMSO is recommended that the cryoprotective agent be removed immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL complete culture medium and spin at approximately 125 x g for 5 to 7 minutes. 4.Discard the supernatant and Resuspend cell pellet with the recommended complete medium (see the specific batch information for the culture recommended dilution ratio). 5. Incubate the culture in a appropriate atmosphere and temperature (see "Culture Conditions" for this cell line). NOTE: It is important to avoid excessive alkalinity of the medium during recovery of the cells. It is suggested that, prior to the addition of the vial contents, the culture vessel containing the growth medium be placed into the incubator for at least 15 minutes to allow the medium to reach its normal pH (7.0 to 7.6).
References:	Engel LW, Young NA. Human breast carcinoma cells in continuous culture: a review. Cancer Res. 38: 4327-4339, 1978. PubMed: 212193 Engel LW, et al. Establishment and characterization of three new continuous cell lines derived from human breast carcinomas. Cancer Res. 38: 3352-3364, 1978. PubMed: 688225 Dahiya R, et al. Mucin synthesis and secretion in various human epithelial cancer cell lines that express the MUC-1 mucin gene. Cancer Res. 53: 1437-1443, 1993. PubMed: 8443822 Bellet D, et al. Malignant transformation of nontrophoblastic cells is associated with the expression of chorionic gonadotropin beta genes normally transcribed in trophoblastic cells. Cancer Res. 57: 516-523, 1997. PubMed: 9012484 Couillard S, et al. Comparison of the effects of the antiestrogens EM-800 and tamoxifen on the growth of human breast ZR-75-1 cancer xenografts in nude mice. Cancer Res. 58: 60-64, 1998. PubMed: 9426058
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