Data Sheet

BCRJ Code:	0085
Cell Line:	F98
Species:	*Rattus norvegicus*
Vulgar Name:	Rat
Tissue:	Brain
Cell Type:	Glioblastoma
Morphology:	Glial
Disease:	Undifferentiated Malignant Glioma
Growth Properties:	Adherent
Age/Ethinicity:	20 (fetus - gestation) Day /
Applications:	The biological characteristics of this tumor closely resemble those of human glioblastoma. The F98 glioma can be used as rat brain tumor models in experimental neuro-oncology. This cell line may be used for both in vitro and in vivo studies of a rat brain tumor.
Tumor Formation::	Yes, as an intracerebral xenograft in cats. Yes, in CD Fischer rats
Biosafety:	1
Addtional Info:	The transplantable tumor displays an infiltrative pattern of growth within the brain. It is weakly immunogenic in syngeneic rats and an intracerebral inoculum of as few as 100 cells are lethal.
Culture Medium:	Dulbecco's Modified Eagle's Medium (DMEM) modified to contain 4 mM L-glutamine, 4500 mg/L glucose and fetal bovine serum to a final concentration of 10%.

Subculturing:	Remove and discard culture medium. Briefly rinse the cell layer with PBS without calcium and magnesium 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. 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:	Every 2 to 3 days
Subculturing Subcultivation Ratio:	1:6 to 1:10
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:	38592: Ko L, et al. Morphological characterization of nitrosourea-induced glioma cell lines and clones. Acta Neuropathol. 51: 23-31, 1980. PubMed: 7435138 38606: Tzeng JJ, et al. Adoptive immunotherapy of a rat glioma using lymphokine-activated killer cel
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