

Data Sheet

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BCRJ Code:	0346
Cell Line:	Renca
Species:	Mus musculus
Vulgar Name:	Mouse
Tissue:	Kidney
Cell Type:	Epithelial
Morphology:	Epithelial-Like
Disease:	Renal Adenocarcinoma
Growth Properties:	Adherent
Sex:	Male
Age/Ethnicity:	6 Week /
Derivation:	The Renca cell line was derived from a tumor that arose spontaneously as a renal cortical adenocarcinoma in Balb/cCr mice.
Tumor Formation::	YES
Biosafety:	1
Additional Info:	The pattern of growth of this tumor accurately mimics that of human adult renal cell carcinoma, particularly with regard to spontaneous metastasis to lung and liver. The cells do not express transforming growth factor-beta type II receptor (TbetaR-II) 10414746.
Culture Medium:	RPMI-1640 medium modified to contain 2 mM L-glutamine, 4500 mg/L glucose, non-essential amino acids (NEAA) and 10% of fetal bovine serum.



Subculturing:

Volumes used in this protocol are for 75 cm² flasks; 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. An inoculum of 2 X 10⁴ to 4 X 10⁴ viable cells/cm² is recommended. Incubate cultures at 37°C. We recommend that you subculture when the culture reaches a cell concentration between 8 X 10⁴ and 1.5 X 10⁵ cells/cm². Population Doubling Time approximately 24 hours. 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

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 highly recommended 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 submerged 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 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 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 it 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 an 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:

Murphy GP, Hrushesky WJ. A murine renal cell carcinoma. J. Natl. Cancer Inst. 50(4):1013-25, 1973. PubMed: 4703766 Salup RR, et al. Role of natural killer activity in development of spontaneous metastases in murine renal cancer. J. Urol. 134(6):1236-41, 1985. PubMed: 4057425 Engel J, et al. Transforming growth factor-beta type II receptor confers tumor suppressor activity in murine renal carcinoma (renca) cells. Urology. 54(1):164-70, 1999. PubMed: 10414746

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ATCC:

CRL-2947