BCRJ Code:	0435
Cell Line:	RSC96
Species:	*Rattus norvegicus, rat*
Vulgar Name:	Rat
Cell Type:	Neuronal Schwann cell
Morphology:	Neuronal
Growth Properties:	Adherent
Derivation:	The RSC96 cell line is a spontaneously transformed rat Schwann cell line derived from long-term culture of rat primary Schwann cells; Spontaneous immortalization.
Applications:	3D cell culture; Neuroscience
Products:	Oncogene: Eerb-B2, positive [PubMed: 9766530]; Erb-B3, negative [PubMed: 9766530]; Products:cyclic nucleotide phosphodiesterase 1 (Cnp1) (CNPase), positive [PubMed: 9766530]; laminin, positive [PubMed: 9766530]; Myelin-associated glycoprotein (Mag), Protein and mRN Genes expressed: cyclic nucleotide phosphodiesterase 1 (Cnp1), (CNPase) positive; laminin positive; myelin-associated glycoprotein (Mag) protein and mRNA negative; myelin basic protein (Mbp) protein and mRNA negative; myelin protein zero (Mpz) (Charcot-Marie-Tooth neuropathy 1B) protein and mRNA negative; peripheral myelin protein 22 (Pmp22) mRNA positive, protein negative; S100 calcium-binding protein beta (neural) (S100b) protein positive Expression markers: Nerve growth factor receptor (Ngfr); protein and mRNA, negative; platelet derived growth factor receptor alpha, negative; platelet derived growth factor receptor beta, negative
Biosafety:	1
Culture Medium:	Dulbecco's Modified Eagle's Medium (DMEM) modified to contain 2 mM L-glutamine, 4500 mg/L glucose and fetal bovine serum to a final concentration of 10%.

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 0.25% (w/v) Trypsin-053mM EDTA solution 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.
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: 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:	Hai M, et al. Comparative analysis of Schwann cell lines as model systems for myelin gene transcription studies. J. Neurosci. Res. 69: 497-508, 2002. PubMed: 12210843 Badache A, De Vries GH. Neurofibrosarcoma-derived Schwann cells overexpress platelet-derived growth factor (PDGF) receptors and are induced to proliferate by PDGF BB. J. Cell. Physiol. 177: 334-342, 1998. PubMed: 9766530 Hay, R. J., Caputo, J. L., and Macy, M. L., Eds. (1992), ATCC Quality Control Methods for Cell Lines. 2nd edition, Published by ATCC. Caputo, J. L., Biosafety procedures in cell culture. J. Tissue Culture Methods 11:223-227, 1988. Fleming, D.O., Richardson, J. H., Tulis, J.J. and Vesley, D., (1995) Laboratory Safety: Principles and Practice. Second edition, ASM press, Washington, DC.
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