BCRJ Code:	0050
Cell Line:	BHK-21 [C-13]
Species:	Mesocricetus auratus
Vulgar Name:	Hamster; Golden Syrian Hamster
Tissue:	Kidney
Cell Type:	Fibroblast
Morphology:	Fibroblast
Disease:	Normal
Growth Properties:	Adherent
Age/Ethinicity:	1 Day old; newborn Day /
Applications:	The World Organization for Animal Health (OIE) uses these cells for routine diagnosis of rabies. Used extensively for virus replication studies i.e. poliovirus, rabies, foot and mouth disease, VSV (Indiana strain), herpes simplex, Ad25 and arboviruses.
Virus Succeptility::	Human adenovirus 25 Reovirus 3 Vesicular stomatitis virus Human poliovirus 2
Biosafety:	1
Culture Medium:	Dulbecco's modified Eagle's medium with 2mM L-glutamine, 1.0 g/L glucose and 10% of fetal bovine serum

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. T-75 flasks are recommended for subculturing this product. 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. Doubling time: ca. 32-50 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:	1 to 2 times a week
Subculturing Subcultivation Ratio:	1:2 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:

Drayna D, et al. Genetic mapping and diagnosis of haemophilia A achieved through a BclI polymorphism in the factor VIII gene. Nature 314: 738-740, 1985. PubMed: 2986011 Kazazian HH Jr., et al. Restriction site polymorphism in the phosphoglycerate kinase gene on the X chromosome. Hum. Genet. 66: 217-219, 1984. PubMed: 6325324 Macpherson I, Stoker M. Polyoma transformation of hamster cell clones--an investigation of genetic factors affecting cell competence. Virology 16: 147-151, 1962. PubMed: 14468055 Macpherson, et al. Polyoma transformation of hamster cell clones - an investigation of genetic factors affecting cell competence. Virology 14: 359-370, 1961. Macpherson I. Characteristics of a hamster cell clone transformed by polyoma virus. J. Natl. Cancer Inst. 30: 795-815, 1963. Deleersnyder V, et al. Formation of native hepatitis C virus glycoprotein complexes. J. Virol. 71: 697-704, 1997. PubMed: 8985401 Yang TT, et al. Quantification of gene expression with a secreted alkaline phosphatase reporter system. BioTechniques 23: 1110-1114, 1997. PubMed: 9421645 Hussain MA, et al. POU domain transcription factor brain 4 confers pancreatic alpha-cell-specific expression of the proglucagon gene through interaction with a novel proximal promoter G1 element. Mol. Cell. Biol. 17: 7186-7194, 1997. PubMed: 9372951 You M, et al. ch-IAp1, a member of the inhibitor-of-apoptosis protein family, is a mediator of the antiapoptotic activity of the v-Rel oncoprotein. Mol. Cell. Biol. 17: 7328-7341, 1997. PubMed: 9372964 Jelachich ML, Lipton HL. Theiler's murine encephalomyelitis virus kills restrictive but not permissive cells by apoptosis. J. Virol. 70: 6856-6861, 1996. PubMed: 8794327 Schnell MJ, et al. The minimal conserved transcription stop-start signal promotes stable expression of a foreign gene in vesicular stomatitis virus. J. Virol. 70: 2318-2323, 1996. PubMed: 8642658 Chang YE, et al. Properties of the protein encoded by the UL32 open reading frame of herpes simplex virus 1. J. Virol. 70: 3938-3946, 1996. PubMed: 8648731 Biological evaluation of medical devices. Part 5: Tests for in vitro cytotoxicity. Sydney, NSW, Australia:Standards Australia;Standards Australia AS ISO 10993.5-2002. Biological evaluation of medical devices--Part 5: Tests for in vitro cytotoxicity. Geneva (Switzerland):International Organization for Standardization/ANSI;ISO ISO 10993-5:1999.

Depositors: Leda dos Reis Castilho, Universidade Federal do Rio de Janeiro

Cellosaurus: CVCL_1915