BCRJ Code:	0117
Cell Line:	IEC-6
Species:	*Rattus norvegicus*
Vulgar Name:	Rat
Tissue:	Small Intestine/Epithelium
Morphology:	Epithelial
Disease:	Normal
Growth Properties:	Adherent
Sex:	Male
Applications:	This cell line is a suitable transfection host.
Products:	COLLAGEN; FIBRONECTIN
Biosafety:	1
Addtional Info:	Growth is inhibited by cortisol. Cells possess cell surface antigens specific for intestinal epithelial cells in vivo
Culture Medium:	Dulbecco's modified Eagle's medium with 2 mM L-glutamine, 4.5 g/L glucose, 0.1 Unit/mL bovine insulin and 5% of fetal bovine serum.
Subculturing:	Remove medium, and rinse with PBS without calcium and magnesium. Remove the solution and add an additional 1 to 2 mL of trypsin-EDTA solution. Allow the flask to sit at room temperature (or at 37°C) until the cells detach. Add fresh culture medium, aspirate and dispense into new culture flasks. 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:	Twice per week
Subculturing Subcultivation Ratio:	1:3 to 1:6
Culture Conditions:	Atmosphere: air, 95%; carbon dioxide (CO_2), 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:

Quaroni A, et al. Fibronectin synthesis by epithelial crypt cells of rat small intestine. Proc. Natl. Acad. Sci. USA 75: 5548-5552, 1978. PubMed: 103096 Quaroni A, et al. Epithelioid cell cultures from rat small intestine. Characterization by morphologic and immunologic criteria. J. Cell Biol. 80: 248-265, 1979. PubMed: 88453 Quaroni A, et al. Keratin expression in rat intestinal crypt and villus cells. J. Biol. Chem. 266: 11923-11931, 1991. PubMed: 1711043 Dignass AU, Podolsky DK. Interleukin 2 modulates intestinal epithelial cell function in vitro. Exp. Cell Res. 225: 422-429, 1996. PubMed: 8660931 Weiser MM, Quaroni A. A vitamin D-related inhibition of growth of an epithelioid cell line derived from rat small intestine. Biochem. Biophys. Res. Commun. 90: 788-793, 1979. PubMed: 508345 Jakobs ES, et al. Expression of sodium-linked nucleoside transport activity in monolayer cultures of IEC-6 intestinal epithelial cells. J. Biol. Chem. 265: 22210-22216, 1990. PubMed: 2266122 Conteas CN, Majumdar AP. The effects of gastrin, epidermal growth factor, and somatostatin on DNA synthesis in a small intestinal crypt cell line (IEC-6). Proc. Soc. Exp. Biol. Med. 184: 307-311, 1987. PubMed: 2881310

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