Code:	0048
Cell Line:	BeWo
Species:	Homo sapiens **Vulgar Name:** Human
Tissue:	Placenta
Morphology:	Epithelial
Disease:	Choriocarcinoma
Growth Properties:	Adherent
Sex:	Male
DNA Profile:	Amelogenin: X,Y CSF1PO: 11,12 D13S317: 9,11 D16S539: 13,14 D5S818: 10,11 D7S820: 10,12 THO1: 9,9.3 TPOX: 8 vWA: 16
Virus Succeptibility:	Human poliovirus 3 Vesicular stomatitis virus
Products:	hormones; progesterone; human chorionic gonadotropin (hCG); human chorionic somatomammotropin (placental lactogen); estrogen; estrone; estriol; estradiol; keratin
Biosafey:	1
Additional info:	The cells are positive for keratin by immunoperoxidase staining.
Culture Medium:	F-12K Medium (Kaighn's Modification of Ham's F-12 Medium) contains 2 mM L-glutamine and 1500 mg/L sodium bicarbonate, 90%; fetal bovine serum, 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. 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. 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. **Medium Renewal:** 3 to 4 times per week **Subcultivation ratio:** 1:3 is recommended
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:	Pattillo RA, et al. Human hormone production in vitro. Science 159: 1467-1469, 1968. PubMed: 5753554 Pattillo RA, et al. Control mechanisms for gonadotrophic hormone production in vitro. In Vitro 6: 205-214, 1970. PubMed: 5535575 Pattillo RA, et al. Estrogen production by trophoblastic tumors in tissue culture. J. Clin. Endocrinol. Metab. 34: 59-61, 1972. PubMed: 4332667 Pattillo RA, Gey GO. The establishment of a cell line of human hormone-synthesizing trophoblastic cells in vitro. Cancer Res. 28: 1231-1236, 1968. PubMed: 4299001 Hertz R. Choriocarcinoma of women maintained in serial passage in hamster and rat. Proc. Soc. Exp. Biol. Med. 102: 77-81, 1959. PubMed: 14401422 Pattillo RA, et al. The hormone-synthesizing trophoblastic cell in vitro: a model for cancer research and placental hormone synthesis. Ann. N.Y. Acad. Sci. 172: 288-298, 1971. PubMed: 5289994 Schar BK, et al. Simultaneous detection of all four alkaline phosphatase isoenzymes in human germ cell tumors using reverse transcription-PCR. Cancer Res. 57: 3841-3846, 1997. PubMed: 9288797 Heckert LL, et al. The cAMP response elements of the alpha subunit gene bind similar proteins in trophoblasts and gonadotropes but have distinct functional sequence requirements. J. Biol. Chem. 49: 31650-31656, 1996. PubMed: 8940185
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ATCC:	CCL-98