

Product-Data-Sheet for BM-MSC/TERT292

Version: September 2021

Evercyte Ord. No.:	CHT-063-0292
Designation:	BM-MSC/TERT292
Biosafety Level:	1
Shipped:	Frozen on dry ice
Growth medium:	Mesencult™ ACF Plus Culture Kit (STEMCELL TECHNOLOGIES, Cat# 05448) supplemented with GlutaMAX™-I and G418 <u>Final components:</u> Mesencult™ ACF Plus medium (STEMCELL TECHNOLOGIES, Cat# 05446) Mesencult™ ACF Plus 500x supplement (STEMCELL TECHNOLOGIES, Cat# 05447) Animal Component-Free Cell Attachment (STEMCELL TECHNOLOGIES, Cat# 07130) 2 mM GlutaMAX™-I (Gibco, Cat# 35050-038, ready-to-use) 200 µg/ml G418 (InvivoGen, Cat# ant-gn5, ready-to-use)
Growth:	Adherent
Organism:	Homo sapiens (human)
Morphology:	Mesenchymal, spindle-shaped morphology
Source:	Bone marrow / spongy bone
Cell Type:	Mesenchymal stem cells
Antigen Expression:	Positive for CD73, CD90, CD105, negative for CD34
Ethical statement:	Approved by Institutional Review Board (IRB) in accordance with the Declaration of Helsinki
Comments:	<p>BM-MSC/TERT292 was developed from human bone marrow-derived mesenchymal stem cells by non-viral gene transfer of a plasmid carrying the hTERT gene. Positively transfected cells were selected by using neomycin phosphotransferase as selectable marker and Geneticin sulfate addition.</p> <p>The cells have been verified to differentiate towards mesodermal lineages (adipocytes, chondrocytes, osteoblasts).</p> <p>The cell line was continuously cultured for more than 50 population doublings without showing signs of growth retardation or replicative senescence. Cells readily recover from cryopreservation and no changes in growth characteristics have been observed after thawing.</p>

Propagation:	Cells are grown on ACF Cell Attachment substrate in Mesencult™ - ACF (STEMCELL TECHNOLOGIES) supplemented with GlutaMAX™-I and G418 (see above) at 37°C in a humidified atmosphere with 5 % CO ₂ .
Subculturing:	<p>The new culture flasks have to be pre-coated with ACF Cell Attachment Substrate following the instructions of the manufacturer. Briefly, dilute the substrate 1:300 in PBS and transfer the diluted substrate to the culture flasks (72 µl/cm²), incubate at least 2 hours at room temperature. Before introducing cells, remove excess of ACF substrate and rinse flask once with PBS (160 µl/cm²).</p> <p>For detachment of the cells remove and discard the culture medium and wash the cells twice with PBS (each 160 µl/cm²). Remove PBS completely. Then, add CTS™ TrypLE™ Select Enzyme solution (20 µl/cm²; Gibco, Cat# A1285901), make sure that all cells have been in contact with this solution and incubate the culture flask at 37°C for approximately 2-3 min. Observe cell detachment under an inverted microscope. As soon as all cells are detached (if necessary, agitate the cells by gently hitting the flask), add growth medium (about 160 µl/cm²) and centrifuge at 300 g for 5 min.</p> <p>Discard the supernatant, resuspend the cell pellet in the remaining droplet and add growth medium (about 160 µl/cm²). Then, transfer appropriate aliquots of the cell suspension to new culture vessels supplemented with growth medium (final volume of 240 µl/cm²). A split ratio of 1:4 to 1:6 twice a week is recommended (after cells have reached about 80-90 % confluence).</p>
Preservation:	<p>Freezing medium:</p> <p>CryoStor® cell cryopreservation medium CS10 (Sigma Aldrich, Cat# C2874, ready-to-use, stored at 4°C)</p> <p>Storage temperature: liquid nitrogen</p>
Freezing and thawing procedure:	<p>Freezing of cells:</p> <p>Detach the cells (80-90 % confluence) from the culture vessel by using CTS™ TrypLE™ Select Enzyme solution as described above, resuspend the detached cells in growth medium and centrifuge at 300 g for 5 min. Then, discard the supernatant, resuspend the resulting cell pellet in the remaining droplet and add freezing medium (tempered to 4°C) to reach a cell density of about 3-5 x 10⁵ cells/ml (for thawing in a 25 cm² culture flask). Add 1 ml of this cell suspension to each pre-cooled cryovial and immediately transfer the cells to -80°C. After 24 hours transfer the vials to the liquid nitrogen tank.</p> <p>Thawing of cells:</p> <p>When you start cultivating the cells, please transfer the content of the original Evercyte vial containing BM-MSK/TERT292 cells into a T25 roux flask as described in the following:</p> <p>Pre-coat a 25 cm² culture flask with ACF Cell Attachment substrate (see above or protocol <i>Passaging of BM-MSK/TERT292</i>). Add 6 ml of growth medium to pre-coated 25 cm²</p>

culture flask and place the culture flask in the incubator for at least 30 min to allow the medium to reach 37°C and its normal pH. Take a vial of frozen cells, rinse it outside with ethanol and pre-warm in the hand until one last piece of frozen cells is seen. Then, immediately transfer the content of the vial to a 15 ml centrifugation tube pre-filled with 9 ml of medium pre-cooled to 4°C and centrifuge for 5 min at 170 g. Then, discard the supernatant and resuspend the cell pellet in the remaining droplet. Add 1 ml of the pre-warmed medium to the cells, transfer them to the prepared culture flask and incubate at 37°C in a suitable incubator.

BM-MSC/TERT292 cells should be split the day after thawing (see above or protocol *Passaging of BM-MSC/TERT292*).

Doubling Time:	34-38 hours
Virus Testing	Cells have been tested negative for HAV and Parvo B19 with Roche DPX-PCR (cobas® TaqScreen DPX-Test), for HBV, HCV, HIV nucleic acids with Roche-Multiplex-PCR (cobas® TaqScreen MPX Test, v2.0).
Other Analytical Data:	Cells are negative for Mycoplasma contaminations as tested using MycoAlert™ Mycoplasma Detection Kit from Lonza. Cells are negative for bacterial and fungal contaminations as tested according to Ph. Eur. 2.6.1. / USP <71>. STR profile has been analyzed and is as expected.

Please Note:

The classification of biosafety level is based on Austrian Legislation (Gentechnikbuch; Systemverordnung) and on recommendations of the Central Committee on Biological Safety (ZKBS). While Evercyte undertakes all reasonable measures to test for absence of a selected panel of known human pathogenic viruses, there is currently no test procedure available that guarantees for complete absence of infectious pathogens. The use of state-of-the art infectious virus assays or viral antigen assays may leave open the possible existence of a latent viral genome, even if a negative test result is obtained. Therefore, we recommend that all human cell lines should be handled with caution such as an organism of ACDP Hazard Group 2. People who work with our cells must follow national regulations and safety precautions. The laboratories must be equipped with a security level according to the classification of the cells / products. Evercyte assumes no liability whatsoever in connection with the receipt, handling or the consequences of improper use of our products.

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