iPSC-derived CD34+ Cells, BXS0117 (ATCC® ACS-7020™)

Please read this FIRST

Storage Temp.
liquid nitrogen vapor phase

Biosafety Level
2

Intended Use

This product is intended for research use only. It is not intended for any animal or human therapeutic or diagnostic use.

Complete Growth Medium

iPSC-derived CD34+ hematopoietic progenitor cells should be thawed prior to their intended use in application specific media. ATCC recommends thawing them in RPMI-1640 (ATCC 30-2001). ATCC does not recommend maintaining iPSC-derived CD34+ hematopoietic progenitor cells in culture in the absence of application-specific growth factors.

Citation of Strain

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: iPSC-derived CD34+ Cells, BXS0117 (ATCC® ACS-7020™)

 Batch-Specific Information

Refer to the Certificate of Analysis for batch-specific test results.

SAFETY PRECAUTION

ATCC highly recommends 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.

Unpacking & Storage Instructions

1. Check all containers for leakage or breakage.
2. Remove the frozen cells from the dry ice packaging and immediately place the cells at a temperature below ~130°C, preferably in liquid nitrogen vapor, until ready for use.

Handling Procedure for Frozen Cells

Refer to the batch specific information for the total number of viable cells recovered from this lot of ATCC® ACS-7020 Lot 70020687 is ~2.8 x 10⁶

1. Using the total number of viable cells, customers have to decide seeding for their experiments and applications.
2. Prepare the desired combinations of culture dishes with required media or media. Place dishes in a 37°C, 5% CO₂ humidified incubator and allow the media to pre-equilibrate to temperature and pH for 30 minutes prior to adding cells.
3. While the culture dishes equilibrate, remove one vial of ATCC® ACS-7020 from storage and thaw the cells by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 1 to 2 minutes).
4. 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 operations from this point onward should be carried out under strict aseptic conditions.
5. Add 4ml of base medium or complete growth media – into a sterile conical tube. Using a sterile pipette, transfer cells from the cryovial to the conical tube. Centrifuge at 200-300xg for 5min, remove supernatant and re suspend the pellet in complete growth medium.
6. Transfer cell suspension to each of the pre-equilibrated culture dishes in the required seeding density, gently rock each dishes to evenly distribute the cells.
7. Place the seeded culture flasks in the incubator at 37°C with a 5% CO₂ atmosphere. Incubate for at least 24 hours before processing the cells further.

Handling Procedure for Flask Cultures

1. Pre-warm complete growth media in a 37°C water bath. This will take between 10 to 30 minutes, depending on the volume. If using a small volume of medium (50 mL or less), warm only the volume
24 to 36 hours after seeding, remove the cells from the incubator and view each flask under the microscope to determine percent cellular confluence.
3. Carefully remove the spent media without disturbing the monolayer.
4. Add 5 mL of fresh, pre-warmed complete growth media per 25 cm² of surface area and return the flasks to the incubator.
5. After 24 to 48 hours, view each flask under the microscope to determine percent cellular confluence.

If not ready to passage, repeat steps 3 and 4 as described above. When cultures have reached 80% to 90% confluence, and are actively proliferating (many mitotic figures are visible), it is time to subculture. Fibroblasts are not a contact inhibited cell type.

Human iPSC-derived CD34+ can be used for drug development, toxicity screening, and cancer immunology experiments. There is reduced lot-to-lot variability in this cell line as they are all derived from the parental iPSC line (ATCC ACS-1031).

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the current publication of the Biohazards in Microbiological and Biomedical Laboratories from the U.S. Department of Health and Human Services Centers for Disease Control and Prevention and National Institutes for Health.

This product is a living cell or microorganism, ATCC lists the media formulation that has been found to be effective for this product. While other, unspecified media may also produce satisfactory results, a change in media or the absence of an additive from the ATCC recommended media may affect recovery, growth and/or function of this product. If an alternative medium formulation is used, the ATCC warranty for viability is no longer valid.

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Please see the enclosed Material Transfer Agreement (MTA) for further details regarding the use of this product. The MTA is also available on our Web site at www.atcc.org.

Additional information on this culture is available on the ATCC web site at www.atcc.org.

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