alpha TC1 clone 6

CRL-2934™

Description

Alpha TC1 clone 6 is an alpha cell line isolated in 1988 from the pancreas of a mouse with adenoma. It was cloned from the alpha TC1 cell line, which was derived from an adenoma created in transgenic mice expressing the SV40 large T antigen oncogene under the control of the rat preproglucagon promoter. The cell line is useful for studying many aspects of islet biology, including glucagon biosynthesis and cytokine sensitivity.

Organism: *Mus musculus*, mouse
Cell Type: alpha cell
Tissue: Pancreas
Morphology: epithelial
Growth properties: Adherent, loosely attached clusters and some single cells in suspension
Disease: Adenoma

Storage Conditions

Product format: Frozen
Storage conditions: Vapor phase of liquid nitrogen

Intended Use

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

BSL 2

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to understand the hazards associated with the material per your organization's policies and procedures as well as any other applicable regulations as enforced by your local or national agencies.

Cells contain SV40

ATCC highly recommends that appropriate personal protective equipment is always used when handling vials. For cultures that require storage in liquid nitrogen, it is important to note that some vials may 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 vial exploding or blowing off its cap with dangerous force creating flying debris. Unless necessary, ATCC recommends that these cultures be stored in the vapor phase of liquid nitrogen rather than submersed in liquid nitrogen.

Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at www.atcc.org.

Growth Conditions

Temperature: 37°C
Atmosphere: 90% Air, 10% CO_2

Handling Procedures

Unpacking and 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.

Complete medium: The base medium for this cell line is Dulbecco's Modified Eagle's Medium, low glucose (Gibco Cat. No. 11885-084). To make the complete growth medium, add the following components to the base medium:

- Fetal bovine serum (FBS) to a final concentration of 10%
- HEPES to a final concentration of 15 mM
- Non-essential amino acids to a final concentration of 0.1 mM
- Bovine serum albumin to a final concentration of 0.02%

Handling Procedure: To insure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not at -70°C. Storage at -70°C will result in loss of viability.

1. Thaw the vial 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 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. 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 10 minutes.
4. Resuspend cell pellet with the recommended complete medium (see the specific batch information for the culture recommended dilution ratio) and dispense into a 25 cm^2 or a 75 cm^2 culture flask. 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 complete 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).
5. Incubate the culture at 37°C in a suitable incubator. A 10% CO_2 in air atmosphere is recommended if using the medium described on this product.

Subculturing procedure:

Volumes used in this protocol are for 75 cm^2 flasks; proportionally reduce or increase amount of dissociation medium for culture vessels of other sizes.

NOTE: Warm all solutions to 37.0°C prior to use

1. Transfer all medium and floating cells from flask to a 50 mL centrifuge tube.
2. Adherent cells are removed using Cell Dissociation Buffer (an enzyme free buffer; Invitrogen, Catalog No. 13150-016) diluted 1:5 with Hanks' Balanced Salt Solution. Add 5.0 mL of diluted cell dissociation buffer per 75 cm^2 flask and gently rock flask to bathe the cells at room temperature for 1 to 2 minutes.
3. Allow the flask to remain at room temperature for 1 to 5 additional minutes until cells have detached from the flask.
4. Firmly tap the flask against palm of hand to dislodge cells.
5. Add 10.0 mL of fresh medium per 75 cm^2 flask and triturate up and down directing the stream along the growth surface of the flask to dislodge the cells and break up some of the clumps.
6. Transfer these cells to the centrifuge tube from Step 1. Centrifuge at 125 x g for 5 to 10 minutes. Remove medium and resuspend pellet in fresh complete medium.
7. Add appropriate aliquots of cell suspension to new culture vessels.
8. Incubate cultures at 37°C.

Subcultivation ratio: A subcultivation ratio of 1:3 to 1:4 is recommended.
Medium renewal: Every 2 to 3 days.

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: alpha TC1 clone 6 (ATCC CRL-2934)

References

References and other information relating to this material are available at www.atcc.org.

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