ATCC

Product Sheet

# Hs68 (ATCC® CRL-1635™)

**Please read this FIRST**

Biosafety Level
**1**

## 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

The base medium for this cell line is ATCC-formulated Dulbecco's Modified Eagle's Medium, Catalog No. 30-2002. To make the complete growth medium, add the following components to the base medium: fetal bovine serum to a final concentration of 10%.

## Citation of Strain

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: Hs68 (ATCC® CRL-1635™)

American Type Culture Collection
PO Box 1549
Manassas, VA 20108 USA
www.atcc.org

800.638.6597 or 703.365.2700
Fax: 703.365.2750
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*Or contact your local distributor*

## Description

**Organism:** *Homo sapiens*, human
**Tissue:** skin; foreskin
**Disease:** aspartoacylase deficiency; possible Canavan disease
**Cell Type:** fibroblast
**Age:** newborn
**Gender:** male
**Morphology:** fibroblast
**Growth Properties:** adherent
**DNA Profile:**
Amelogenin: X,Y
CSF1PO: 9,12
D13S317: 11,13
D16S539: 11,12
D5S818: 8,11
D7S820: 11,12
THO1: 6,9.3
TPOX: 11
vWA: 16
**Cytogenetic Analysis:** This is a human cell line with the normal 46,XY karyotype. The modal chromosome number was 46, with polyploidy at 3.6%. Both X and Y chromosomes can be identified clearly.

## 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

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 75 $cm^2$ tissue culture flask and dilute with the recommended complete culture medium (see the specific batch information for the recommended dilution ratio). 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).
4. Incubate the culture at **37°C** in a suitable incubator. A 5% $CO_2$ in air atmosphere is recommended if using the medium described on this product sheet.

If it is desired that the cryoprotective agent be removed immediately, or that a more concentrated cell suspension be obtained, centrifuge the cell suspension at approximately 125 xg for 5 to 10 minutes. Discard the supernatant and resuspend the cells with fresh growth medium at the dilution ratio recommended in the specific batch information.

## Handling Procedure for Flask Cultures

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The flask was seeded with cells (see specific batch information) grown and completely filled with medium at ATCC to prevent loss of cells during shipping.

1. Upon receipt visually examine the culture for macroscopic evidence of any microbial contamination. Using an inverted microscope (preferably equipped with phase-contrast optics), carefully check for any evidence of microbial contamination. Also check to determine if the majority of cells are still attached to the bottom of the flask; during shipping the cultures are sometimes handled roughly and many of the cells often detach and become suspended in the culture medium (but are still viable).
2. **If the cells are still attached,** aseptically remove all but 5 to 10 ml of the shipping medium. The shipping medium can be saved for reuse. Incubate the cells at 37°C in a 5% $CO_2$ in air atmosphere until they are ready to be subcultured.
3. **If the cells are not attached,** aseptically remove the entire contents of the flask and centrifuge at 125 xg for 5 to 10 minutes. Remove shipping medium and save. Resuspend the pelleted cells in 10 ml of this medium and add to 25 $cm^2$ flask. Incubate at 37°C in a 5% $CO_2$ in air atmosphere until cells are ready to be subcultured.

## Subculturing Procedure

Remove medium, and rinse with 0.25% trypsin, 0.03% EDTA solution. 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.
**Subcultivation Ratio:** A subcultivation ratio of 1:4 to 1:8 is recommended
**Medium Renewal:** 2 to 3 times per week

## Cryopreservation Medium

Complete culture medium described above supplemented with 5% (v/v) DMSO.
Cell culture tested DMSO is available as ATCC Catalog No. 4-X.

## Comments

Longevity studies carried out at NBL demonstrated that the cells could be propagated for 42 passages.
The ATCC has been informed by Dr. Anne B. Johnson, Department of Pathology and Neuroscience at Albert Einstein College of Medicine, that this cell line has an unusually low level of the enzyme aspartoacylase (0.028 mU/mg or less on repeat assays.
Our records indicate that the donor of Hs 68 was apparently normal, but Dr. Johnson pointed out that individuals exhibiting a deficiency in aspartoacylase suffer from Canavan disease. Canavan disease is a devastating, autosomal recessive disorder involving spongy degeneration of the nervous system.According to Dr. Johnson, fibroblasts from affected children have aspartoacylase levels of 0.003 to 0.02 mU/mg; carriers' levels vary from 0.016 to 0.04 mU/mg and normal run from 0.1 to 0.4 mU/mg. More information on aspartoacylase and Canavan disease can be found in an article by R. Kaul et al.

## References

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

## Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the current publication of the *Biosafety 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.

## ATCC Warranty

The viability of ATCC® products is warranted for 30 days from the date of shipment, and is valid only if the product is stored and cultured according to the information included on this product information sheet. ATCC lists the media formulation that has been found to be effective for this strain. 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 strain. If an alternative medium formulation is used, the ATCC warranty for viability is no longer valid.

## Disclaimers

This product is intended for laboratory research purposes only. It is not intended for use in humans.

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