





Product Sheet

NK-92 (ATCC® CRL-2407™)

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

The base medium for this cell line is Alpha Minimum Essential medium without ribonucleosides and deoxyribonucleosides but with 2 mM L-glutamine and 1.5 g/L sodium bicarbonate. To make the complete growth medium, add the following components to the base medium: 0.2 mM inositol; 0.1 mM 2-mercaptoethanol; 0.02 mM folic acid; 100-200 U/ml recombinant IL-2; adjust to a final concentration of 12.5% horse serum and 12.5% fetal bovine serum.

Citation of Strain

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: NK-92 (ATCC® CRL-2407™)

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
Email: Tech@atcc.org

Or contact your local distributor

Description

Organism: *Homo sapiens*, human

Tissue: peripheral blood

Disease: malignant non-Hodgkin's lymphoma

Cell Type: natural killer cell; NK cell

Age: 50 years

Gender: male

Morphology: lymphoblast

Growth Properties: suspension, multicell aggregates

Virus Susceptibility:

Viral Testing: ATCC confirmed this cell line is positive for the presence of Epstein-Barr viral DNA sequences via PCR.

DNA Profile:

Amelogenin: X,Y

CSF1PO: 11,12

D13S317: 9,12

D16S539: 11,12

D5S818: 12,13

D7S820: 10,11

THO1: 6,9,3

TPOX: 8

vWA: 18

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 centrifuge tube containing 9.0 mL complete culture medium and spin at approximately 125 x g for 5 to 7 minutes. Discard supernatant.
4. Resuspend the cell pellet with the recommended complete medium and dispense into a 25 cm² 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 5% CO₂ in air atmosphere is recommended if using the medium described on this product sheet.

Subculturing Procedure


Cultures can be maintained by addition or replacement of medium. When replacing media, centrifuge cells and




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resuspend cell pellet in fresh medium at 2 to 3 X 10⁵ viable cells/mL. Pipet the cells up and down on the back of the flask every 2-3 days to produce a single cell suspension. Corning® T-75 flasks (catalog #431464) are recommended for subculturing this product.

NK-92 cells are extremely sensitive to overgrowth and media exhaustion.

Medium Renewal: Replace with fresh medium every 2 to 3 days (depending on cell density)



Cryopreservation Medium

Complete growth medium, 40%; fetal bovine serum, 50%; DMSO, 10%. Cell culture tested DMSO is available as ATCC Catalog No. 4-X.



Comments

The cell line is dependent on the presence of recombinant IL-2 and a dose as low as 10 U/mL is sufficient to maintain proliferation; cells will die within 72 hours in the absence of IL-2.

NK-92 cells have the following characteristics: surface marker positive for CD2, CD7, CD11a, CD28, CD45, CD54 and CD56 bright; surface marker negative for CD1, CD3, CD4, CD5, CD8, CD10, CD14, CD16, CD19, CD20, CD23, CD34 and HLA-DR.

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References

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



Biosafety Level: 2

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. While ATCC uses reasonable efforts to include accurate and up-to-date information on this product sheet, ATCC makes no warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. ATCC does not warrant that such information has been confirmed to be accurate.

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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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