b|e|i RESOURCES

SUPPORTING INFECTIOUS DISEASE RESEARCH

DATA SHEET

For research use only. Not for use in humans.

Reagent: ACH-2 Cells

Catalog Number: ARP-349

Lot Number: 190456

Provided: Each vial of ARP-349 contains approximately 4.35 × 10^6 cells in 0.8 mL of freeze medium. Post-thaw viability was 95.4%.

Cell Type: Subclone A3.01, which is derived from CEM, a human T-cell line originally isolated from a four-year-old Caucasian female with acute lymphoblastic leukemia.

Propagation Medium: The recommended propagation medium is RPMI 1640 supplemented with 10 mM HEPES, 2 mM L-glutamine, and non-essential amino acids, 90%; heat-inactivated FBS, 10%.

Freeze Medium: The recommended freeze medium is 90% FBS with 10% DMSO.

Growth Characteristics: ACH-2 cells grow in single cell suspension with some visible clumping. The cells should be passaged every three days to give a concentration of 1 × 10^6 cells/mL. Doubling time is 24 hours. Cells require RPMI 1640 with supplements for regular growth, but they can also be grown in OPTI-MEM containing 2.5% FBS, 2.0 mM L-glutamine, 100 U/mL penicillin, 100 µg/mL streptomycin and 0.5 µM β-mercaptoethanol.

Sterility: Tests for bacteria, fungi, and mycoplasma were negative.

Description: ACH-2 cells are a continuous human T-cell line (A3.01), a HAT-sensitive derivative of the CEM line originally isolated from a child with acute lymphocyte leukemia. A3.01 are >95% susceptible to the cytopathic effects induced by this virus.

Special Characteristics: A3.01, a CD4+ hypoxanthine/aminopterin/thymidine-sensitive variant of the CEM T-cell line, is >95% Leu-3+, Leu-8+, Leu-1+,Tac-, and transferrin-receptor positive and was sensitive to infection with the HIV virus.

Recommended Storage: Keep at -100°C or colder, preferably in the vapor phase of a liquid nitrogen freezer.

Contributor: Dr. Thomas Folks

References:

Clouse, K. A., et al. "Monokine Regulation of Human Immunodeficiency Virus-1 Expression in a Chronically Infected Human T Cell Clone." J. Immunol. 142 (1989): 431-438. PubMed: 2463307.

Folks, T. M., et al. "Tumor Necrosis Factor Alpha Induces Expression of Human Immunodeficiency Virus in a Chronically Infected T-Cell Clone." Proc. Natl. Acad. Sci. USA 86 (1989): 2365-2368. PubMed: 2784570.

Percherancier, Y., et al. "HIV-1 Entry into T-cells is not Dependent on CD4 and CCR5 Localization to Sphingolipid-Enriched, Detergent-Resistant, Raft Membrane Domains." J. Biol. Chem. 278 (2003): 3153-3161. PubMed: 12431990.

Citation: Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: ACH-2 Cells, ARP-349."

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Biosafety Level: 2

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories (BMBL). Current Edition. Washington, DC: U.S. Government Printing Office.

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