



## NIH AIDS Reagent Program

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### DATA SHEET

<b>Reagent:</b>	☒ ACH-2 Cells
<b>Catalog Number:</b>	349
<b>Lot Number:</b>	170011
<b>Release Category:</b>	C
<b>Provided:</b>	1 mL of cells Post thaw cell count = $4.1 \times 10^6$ cells/mL Post thaw cell viability = 83% Cell viability increased to 94% after 3 days in culture.
<b>Cell Type:</b>	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
<b>Propagation Medium:</b>	Donor Provided Media: RPMI 1640, 10 mM HEPES, 2 mM L-glutamine, 90%; heat inactivated fetal bovine serum, 10% Current Propagation Media: RPMI 1640, 10 mM HEPES, 2 mM L-glutamine, 1X NEAA, 90%; heat inactivated fetal bovine serum, 10%
<b>Freeze Medium:</b>	Donor Provided Media: RPMI 1640, 82.5%; heat inactivated fetal bovine serum, 10%; DMSO, 7.5% Current Freeze Media: RPMI 1640, 52.5%; heat inactivated fetal bovine serum, 40%; DMSO, 7.5%
<b>Growth Characteristics:</b>	Cells grow in single cell suspension with some visible clumping. Passage the cells every three days to give a concentration of $1 \times 10^6$ cells/mL. Doubling time is 24 hours. ACH-2 cells require RPMI 1640 with supplements for regular growth but they can also be grown in OPTI-MEM containing 2.5% fetal bovine serum, 2.0 mM L-glutamine, 100 U/mL penicillin, 100 µg/mL streptomycin and 0.5 µM β-mercaptoethanol.

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ALL RECIPIENTS OF THIS MATERIAL MUST COMPLY WITH ALL APPLICABLE BIOLOGICAL, CHEMICAL, AND/OR RADIOCHEMICAL SAFETY STANDARDS INCLUDING SPECIAL PRACTICES, EQUIPMENT, FACILITIES, AND REGULATIONS. NOT FOR USE IN HUMANS.

**Sterility:** Negative for mycoplasma, bacteria, and fungi

**Description:** ACH-2 Cells are a T-cell clone that are CD4-, CD5+, transferrin receptor+, Leu-1+ with one integrated proviral copy of latent HIV-1 LAV.

**Special Characteristics:** Parent A3.01 cells were infected with LAV and cloned by limiting dilution. ACH-2 is a clone that survived infection and constantly produces and secretes low levels of RT and p24 into cell culture supernatant. The cells can be induced with phorbol myristate acetate or TNF- $\alpha$  to secrete high levels of infectious HIV-1.

**Recommended Storage:** Keep the reagent in liquid nitrogen.

**Contributor:** Dr. Thomas Folks

**References:** Clouse, K. A., Powell, D., Washington, I., Poli, G., Strebler, K., Farrar, W., . . . Folks, T. M. (1989). Monokine regulation of human immunodeficiency virus-1 expression in a chronically infected human T cell clone. *J Immunol*, 142(2), 431-438. [PUBMED](#)

Folks, T. M., Clouse, K. A., Justement, J., Rabson, A., Duh, E., Kehrl, J. H., & Fauci, A. S. (1989). Tumor necrosis factor alpha induces expression of human immunodeficiency virus in a chronically infected T-cell clone. *Proc Natl Acad Sci U S A*, 86(7), 2365-2368. [PUBMED](#)

**NOTE:** Acknowledgment for publications should read "The following reagent was obtained through the NIH AIDS Reagent Program, Division of AIDS, NIAID, NIH: ACH-2 Cells from Dr. Thomas Folks (cat# 349)." Also include the references cited above in any publications.

**Scientists at for-profit institutions or who intend commercial use of this reagent must contact the NIH Office of Technology Transfer, Email: [NIAIDAIDSReagent@niaid.nih.gov](mailto:NIAIDAIDSReagent@niaid.nih.gov), before the reagent can be released. Please specify the name and a description of the intended use of the reagent.**

**Last Updated** October 22, 2018

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