Human Cell Line, J-Lat Full Length Cells, Clone 8.4

Catalog No. HRP-9847

For research use only. Not for use in humans.

Contributor and Manufacturer:

Eric Verdin, Department of Medicine, University of California, San Francisco, California, USA

Product Description:

HRP-9847 is a Jurkat-based T cell line containing a full-length integrated human immunodeficiency virus 1 (HIV-1) genome that expresses green fluorescent protein (GFP) upon activation. The cell line was generated by infecting Jurkat cells with the packaged retroviral construct HIV-R7/E-/GFP, which is full-length HIV-1 genome with a non-functional *env* due to a frameshift, and GFP in place of the *nef* gene.[1] The genome generates incomplete virions due to a frameshift in *env* gene. The cells express low to undetectable levels of GFP under basal conditions and are suited to study HIV latency and reactivation.[1]

Seventeen short tandem repeat (STR) loci plus the gender-determining locus, Amelogenin, were amplified using the commercially available PowerPlex® 18D Kit (Promega). Jurkat, Clone E6-1 Acute T Cell Leukemia (*Homo sapiens*) was used as a reference. A 93% match was observed between the sample and reference profile, indicating HRP-9847 is derived from the Jurkat T cell line.

Material Provided:

Each vial contains approximately 1.0 mL of frozen cells in 90% fetal bovine serum and 10% dimethylsulfoxide (DMSO). Sufficient cells are provided to initiate at least one new culture. The cell count, expressed as cells/vial, is shown on individual certificates of analysis for each lot.

Packaging/Storage:

This product was packaged aseptically, in screw-capped plastic cryovials. It should be stored at -100°C or colder, preferably in the vapor phase of a liquid nitrogen freezer. Storage at -70°C will result in loss of viability. To ensure the highest level of viability, the vial should be thawed and the culture initiated as soon as possible upon receipt. Any warming of the product during shipping and transfer must be avoided, as this will adversely affect the viability of the product after thawing. For the transfer between freezers and shipping, the cells may be placed on dry ice for brief periods, although the use of a portable liquid nitrogen carrier is preferred. Please read the following recommendations prior to reconstituting this material.

Safety Precautions:

When handling frozen vials, it is highly recommended that protective gloves, lab coat and full-face mask be worn. Even brief exposure to the ultra-cold temperature can cause tissue damage from frostbite. Also, some vials may slowly fill with liquid nitrogen if they have been immersed during cryogenic storage. When thawing, the liquid nitrogen may rapidly expand as it changes to gas, breaking the vial or cap with explosive force, sending debris flying with enough velocity to cause injury. Store and use in areas with adequate ventilation.

Thawing and Growth:

Note: This is a suspension cell line. Do not discard floating cells.

Prior to thawing the cells, prepare growth medium (GM) for use. HRP-9847 is grown in RPMI-1640 medium supplemented with 10% fetal bovine serum, 0.1 mM MEM-nonessential amino acids, 1 mM sodium pyruvate, 100 U/mL penicillin-streptomycin and 50 µg/mL gentamycin.

Rapidly thaw the vial of cells in a 37°C water bath with gentle agitation. To reduce the risk of contamination, keep the cap and O-ring of the vial out of the water and repeatedly check the cap for tightness during thawing. Remove from the water bath immediately when thawed. Dry the vial with a sterile wiper, decontaminate using a wiper soaked with 70% isopropyl alcohol, and let the vial air dry. Aseptically open the vial, remove the vial contents and add to 4.0 mL of GM in a centrifuge tube. Centrifuge the cell suspension at 150 × g for 8 to 10 minutes at 18°C to 25°C. Discard the supernatant and resuspend the cell pellet in 10 mL of pre-warmed GM. Transfer the cell suspension into a 75 cm^2 tissue culture flask. Incubate the new culture at 37°C and 5% CO_2.

After 1 to 2 days, perform a total media change by placing the flask contents into a centrifuge tube. Centrifuge the cell suspension at 150 × g for 8 to 10 minutes at 18°C to 25°C. Discard the supernatant and resuspend the cell pellet in 10 mL of pre-warmed GM.

Sub-culture procedure.

Cultures can be maintained by the addition of fresh GM or the replacement of GM. Alternatively, cultures can be established by centrifugation with subsequent resuspension at 1.0×10^5 cells/mL. Maintain a cell density between 1.0×10^5 and 1.0×10^6 cells/mL. To replace the GM, centrifuge the cell suspension at 150 × g to 300 × g for 8 to 10 minutes at 18°C to 25°C, remove the supernatant and resuspend the cell pellet in fresh pre-warmed complete GM to the desired cell density. Add fresh medium every 2 to 3 days, depending on cell density.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Human Cell Line, J-Lat Full Length Cells, Clone 8.4, HRP-9847."

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). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

Disclaimers:

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References:

1. Jordan, A., D. Bisgrove and E. Verdin., "HIV Reproducibly Establishes a Latent Infection After Acute Infection of T cells *in vitro*." EMBO J. 22 (2003): 1868-1877. PubMed: 12682019.

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www.beiresources.org

E-mail: contact@beiresources.org
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