Signosis
Innovative Plate Assay Solutions

eGFP Jurkat Stable Cell Line

Catalog Number: SL-0132 (For Research Use Only)

Introduction

The Jurkat eGFP stable cell line is engineered to constitutively express enhanced green fluorescent protein (eGFP) via a lentiviral transduction system, providing a robust and convenient fluorescence-based model for T cell biology and assay development. This stable integration enables long-term, uniform expression of eGFP, allowing real-time visualization, quantitative analysis, and high-throughput screening without the need for repeated transfection.

Built on the well-characterized Jurkat background, this cell line retains key features of human T lymphocytes, making it highly suitable for studying T cell signaling, activation, and gene regulation. The consistent and stable eGFP expression ensures reliable signal intensity across experiments, improving reproducibility and assay sensitivity.

Materials provided

One vial of 2 x 10^6 cells, at passage 4, in Freezing Media. **IMPORTANT**: store the frozen cells in liquid nitrogen until you are ready to thaw and propagate them.

Handling cells upon arrival

It is strongly recommended that you propagate the cells by following instructions as soon as possible upon arrival**.

IMPORTANT: It is imperative that an adequate number of frozen stocks be made from early passages as cells may undergo genotypic changes. Possible genetic instability in transfected cells may results in a decreased responsiveness over time in normal cell culture conditions.

Required Cell Culture Media

- **Complete Growth Media**
  In 450mL of RPMI-1640, add 50mL FBS (10% final) and 5mL Penicillin/Streptomycin (1% final).

- **Freezing Media**
  Add 10% DMSO (final) to Complete Growth Media and sterile filter. Make fresh each time.

Materials required but not provided (May be substituted with comparable third-party products):

Materials	Product number
RPMI-1640 Medium	Hyclone P/N SH30027.01
Fetal Bovine Serum (FBS)	Fisherbrand P/N 03-600-511
Penicillin/Streptomycin	Hyclone P/N SV30010
Trypsin	Hyclone P/N SH30236.02
Phosphate-buffered saline (PBS)	Cellgro P/N 21-040-CV
DMSO	Sigma P/N D8418
96-well white plate	Greiner Bio-One P/N 655098
Luciferase substrate	Signosis P/N LUC015
Cell lysis buffer	Signosis P/N LS-001
Hygromycin B (optional)	Toku-E P/N H010

Initial Culture Procedure

1. Quickly thaw cells in a 37°C water bath with careful agitation. Remove from the bath as soon as the vial is thawed.
2. Transfer cells to a 100mm^2 dish (or T-25cm^2 flask) containing 10ml of Complete Growth Media.
3. Gently rock the flask to ensure the cells are mixed well in the media. DO NOT PIPET.
4. Place the flask with cells in a humidified incubator at 37°C with 5% CO_2.

Subculture Procedure

1. Subculture/passage cells when the density reaches 90-100% confluency.
2. Maintain cell density between 2×10^5 and 2×10^6 viable cells/ml.

NOTE: Stable cell lines may exhibit a slower proliferation rate compared to parental cells. Do not seed cells at suboptimal density as this may hinder cell growth and division.

Preparing frozen stocks

This procedure is designed for 100mm^{2}dish or T-75cm^2 flask. Scale volumes accordingly to other vessels.

1. When cells reach 90-100% confluency, freeze them down.
2. Detach cells according to "Subculture Procedure."
3. Transfer cells to a 15ml conical centrifuge tube and centrifuge at 250 x g (or 2,000 RPM) for 5 minutes to collect the cells into a pellet.
4. Carefully aspirate the media and resuspend cells in 0.5mL complete growth media.
5. Add 0.5mL of **2X Freezing Media** and gently resuspend by pipetting up and down.
6. Transfer 1mL of cells into a cryogenic vial.
7. Place the cryogenic vial in a freezing container (*Nalgene # 5100-0001*) and store it at -80ºC freezer overnight.
8. Transfer cells to liquid nitrogen for long-term storage.

For a complete list of cell lines please visit our website at http://www.signosisinc.com/category/cell-based-assays

Transcription Factor	Pathway	Cell Line	Cat #
NFkB	NFkB	Hela; human cervical cancer	SL--0001
NFkB	NFkB	NIH/3T3; mouse fibroblast	SL--0006
NFkB	NFkB	HEK293; human embryonic kidney	SL--0012
NFkB	NFkB	MCF-7; human breast cancer	SL--0013
NFkB	NFkB	A549; human lung cancer	SL--0014
NFkB	NFkB	HepG2; human river cancer	SL--0017
NFkB	NFkB	MEF; murine embryonic fibroblast	SL--0033
NFAT	Calcium Signaling	Jurkat; human T lymphocytes	SL--0032
NFAT	Calcium Signaling	Hela; human cervical cancer	SL--0018
p53	p53	Hela; human cervical cancer	SL--0011
p53	p53	RKO; human colon cancer	SL--0007
SMAD	TGFbeta	HepG2; human river cancer	SL--0016
SMAD	TGFbeta	NIH/3T3; mouse fibroblast	SL--0030
NRF2	Antioxidant Response	MCF7; human breast cancer	SL--0010
STAT1	JAK-STAT	Hela; human cervical cancer	SL--0004
STAT3	JAK-STAT	Hela; human cervical cancer	SL--0003
HIF	Hypoxia Response	NIH/3T3; mouse fibroblast	SL--0005
HIF	Hypoxia Response	Hela; human cervical cancer	SL--0023
HIF	Hypoxia Response	Neuro2a; mouse neuroblastoma	SL--0027
ER	Estrogen Receptor Signaling	T47D; human breast cancer	SL--0002
AR	Androgen Receptor Signaling	MDA-MB-453; human breast cancer	SL--0008
GR	Glucocorticoid Receptor Signaling	MDA-MB-453; human breast cancer	SL--0009
GR	Glucocorticoid Receptor Signaling	Hela; human cervical cancer	SL--0021
AP-1	JNK, ERK, MAPK Signaling	Hela; human cervical cancer	SL--0019
CREB	cAMP, PICA, CaMK Signaling	HEK293; human embryonic kidney	SL--0020
CREB	cAMP, PICA, CaMK Signaling	NIH/3T3; mouse fibroblast	SL--0031
CHOP	Unfolded Protein Response, ER stress	Mia-Paca2; human pancreatic cancer	SL--0025
TCF/LEF	Wnt/b-catenin	HEK293; human embryonic kidney	SL--0015
TCF/LEF	Wnt/b-catenin	Hela; human cervical cancer	SL--0022
TCF/LEF	Wnt/b-catenin	CHO-Kl; Chinese Hamster Ovary	SL--0028
ELK	MAPK Signaling	HEK293; human embryonic kidney	SL--0040
ELK	MAPK Signaling	Hela; human cervical cancer	SL--0041
IRF	Immune Response Pathway	HEK293; human embryonic kidney	SL--0035

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