SZABO SCANDIC

Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Description

The Membrane-Bound TNFα Jurkat Cell Line is a clonal Jurkat cell line expressing uncleavable, membrane-bound human tumor necrosis factor alpha (TNFα) driven by an EF1a promoter. The cells were generated by transduction with Membrane-Bound TNFα (mTNFα) Lentivirus (#78955).

Background

Tumor necrosis factor (TNF, also known as TNFα) is a cytokine produced predominantly by activated macrophages and T lymphocytes. It has been identified as a key regulator in inflammatory and immune responses. TNF signaling pathways are triggered by binding to one of two distinct receptors, designated TNFR1 (TNF receptor 1) and TNFR2, which are differentially regulated on various cell types in normal and diseased tissues. TNFα exists in both a trimeric membrane-bound form (mTNFα) and as a soluble protein. TNFα is synthetized in a precursor form, a cell surface type II transmembrane protein, which is cleaved by metalloproteinases such as TACE (TNFα converting enzyme) into a soluble peptide. Soluble TNFα can then bind to its receptors and activate downstream signaling pathways. Transmembrane TNFα can also bind to TNFα receptors and induce cellular responses. For instance, it can enhance cytotoxicity in NK cells, while in the liver it can trigger hepatitis. Anti-TNFα antibodies can bind to mTNFα and trigger antibody-dependent cell-mediated cytotoxicity (ADCC) or complement-dependent cytotoxicity (CDC) to destroy the mTNFα-expressing inflammatory cells, being a promising therapy for inflammatory diseases.

Application

- Screen and validate antibodies against mTNFα.
- Useful as target cells to measure ADCC (antibody dependent cellular cytotoxicity) or CDC (complement-dependent cytotoxicity) responses to anti-TNFα antibodies.

Materials Provided

Components	Format
2 vials of frozen cells	Each vial contains >1 x 10^6 cells in 1 ml of Cell Freezing Medium (BPS Bioscience #79796)

Parental Cell Line

Jurkat (clone E6-1), human T lymphoblast, suspension.

Mycoplasma Testing

The cell line has been screened to confirm the absence of Mycoplasma species.

Materials Required but Not Supplied

These materials are not supplied with the cell line but are necessary for cell culture and cellular assays. BPS Bioscience's reagents are validated and optimized for use with this cell line and are highly recommended for best results. Media components are provided in the Media Formulations section below.

Media Required for Cell Culture

Name	Ordering Information
Thaw Medium 2	BPS Bioscience #60184
Growth Medium 2E	BPS Bioscience #79638

BPS Bioscience ● bpsbioscience.com ● 858-202-1401 ● support@bpsbioscience.com

Storage Conditions

Cells are shipped in dry ice and should immediately be thawed or stored in liquid nitrogen upon receipt. Do not use a -80°C freezer for long term storage. Contact technical support at support@bpsbioscience.com if the cells are not frozen in dry ice upon arrival.

Media Formulations

For best results, the use of validated and optimized media from BPS Bioscience is *highly recommended*. Other preparations or formulations of media may result in suboptimal performance.

Note: Thaw Media do *not* contain selective antibiotics. However, Growth Media *do* contain selective antibiotics, which are used to maintain selective pressure on the cell population expressing the gene of interest. Cells should be grown at 37˚C with 5% CO_2. BPS Bioscience's cell lines are stable for at least 10 passages when grown under proper conditions.

Media Required for Cell Culture

Thaw Medium 2 (BPS Bioscience #60184):
RPMI 1640 (ATCC modification) medium, supplemented with 10% FBS, 1% Penicillin/Streptomycin.

Growth Medium 2E (BPS Bioscience #79638):
RPMI 1640 (ATCC modification) medium, supplemented with 10% FBS, 1% Penicillin/Streptomycin, 0.5 µg/ml Puromycin.

Cell Culture Protocol

Cell Thawing

1. Swirl the vial of frozen cells for approximately 60 seconds in a 37°C water bath. As soon as the cells are thawed (it may be slightly faster or slower than 60 seconds), quickly transfer the entire contents of the vial to a tube containing 10 ml of pre-warmed Thaw Medium 2.

   Note: Leaving the cells in the water bath at 37°C for too long will result in rapid loss of viability.

2. Immediately spin down the cells at 300 *x g* for 5 minutes, remove the medium and resuspend the cells in 5 ml of pre-warmed Thaw Medium 2.

3. Transfer the resuspended cells to a T25 flask and incubate at 37°C in a 5% CO_2 incubator.

4. After 24 hours of culture, check for cell viability. For a T25 flask, add 3-4 ml of Thaw Medium, and continue growing in a 5% CO_2 incubator at 37°C until the cells are ready to passage.

5. Cells should be passaged before they reach a density of 2 x 10^6 cells/ml. At first passage and subsequent passages, use Growth Medium 2E.

Cell Passage

Dilute the cell suspension into new culture vessels before they reach a density of 2 x 10^6 cells/ml, at no less than 0.2 x 10^6 cells/ml of Growth Medium 2E.The sub-cultivation ratio should maintain the cells between 0.2 x 10^6 cells/ml and 2 x 10^6 cells/ml.

Cell Freezing

1. Spin down the cells at 300 *x g* for 5 minutes, remove the medium and resuspend the cell pellet in 4°C Cell Freezing Medium (BPS Bioscience #79796) at a density of ~2 x 10^6 cells/ml.

2. Dispense 1 ml of cell suspension into each cryogenic vial. Place the vials in an insulated container for slow cooling and store at -80°C overnight.

3. Transfer the vials to liquid nitrogen the next day for storage.

Note: It is recommended to expand the cells and freeze at least 10 vials at an early passage for future use.

Validation Data

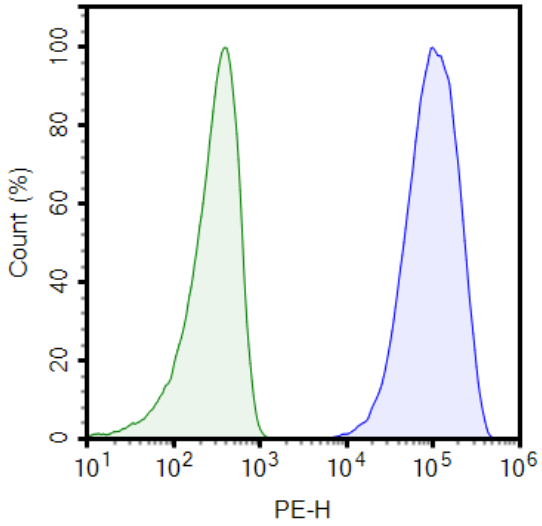

Figure 1. Expression of membrane-bound TNFα in the Membrane-Bound TNFα Jurkat Cell Line by flow cytometry.
Membrane-Bound TNFα Jurkat cells (blue) and parental Jurkat cells (green) were stained with Infliximab Chimeric Recombinant Monoclonal Antibody (ThermoFisher #MA5-41776), followed by Anti-Human IgG Fc, PE (clone HP6017) (Cedarlane #CL6017PE) and analyzed by flow cytometry. Y-axis is the % cell number. X-axis is the intensity of PE.

Data shown is representative. For lot-specific information, please contact BPS Bioscience, Inc. at support@bpsbioscience.com.

License Disclosure
Visit bpsbioscience.com/license for the label license and other key information about this product.

Troubleshooting Guide
Visit bpsbioscience.com/cell-line-faq for detailed troubleshooting instructions. For all further questions, please email support@bpsbioscience.com.

Related Products

Products	*Catalog #*	*Size*
Membrane-Bound TNFα CHO Cell Line	78971	2 vials
Membrane-Bound TNFα (mTNFα) Lentivirus	78955	500 µl x 2
TNFR2 HEK293 Cell Line	78828	2 vials
TNFR2 Lentivirus	78765	500 µl x 2
TNFR2:TNF-alpha[Biotinylated] Inhibitor Screening Assay Kit	79756	96 reactions

Version 022725

BPS Bioscience
● bpsbioscience.com ● 858-202-1401 ● support@bpsbioscience.com