Technical Data Sheet

Protein Transport Inhibitor (Containing Monensin)

Product Information

Material Number: **554724**
Size: 0.7 mL

Description

The ex vivo addition of BD GolgiStop™, a protein transport inhibitor containing monensin, to in vitro- or in vivo-stimulated lymphoid cells blocks their intracellular protein transport processes. This results in the accumulation of cytokines and/or proteins in the Golgi complex. The increased accumulation of cytokines in the cell enhances the detectability of cytokine-producing cells with flow cytometric analysis.

Investigators should note that the appearance of BD GolgiStop™ may range in color from clear (colorless) to a light yellow.

Preparation and Storage

Store undiluted at 4°C.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

Recommended Assay Procedure:

Stimulation of Cells: Various *in vitro* methods have been reported for stimulating cells to produce cytokines. Polyclonal activators have been particularly useful for inducing cytokine-producing cells. These activators include the following: concanavalin A, lipopolysaccharide, phorbol esters plus calcium ionophore or ionomycin, phytohaemaglutinin, staphlylococcus, entertoxin B, and monoclonal antibodies directed against subunits of the TCR/CD3 complex (with or without antibodies directed against costimulatory receptors, such as CD28).

Procedure for Using BD GolgiStop™: Add 4 µl of BD GolgiStop™ for every 6 mL of cell culture (e.g., ~10^6 cells/mL) and mix thoroughly. Treatment of stimulated cells for 4 to 6 hours with BD GolgiStop™ significantly increases the ability to detect cytokine-producing cells by immunofluorescent staining. It is recommended that BD GolgiStop™ not be kept in cell culture for longer than 12 hours.

As an alternative to BD GolgiStop™, investigators may wish to use BD GolgiPlug™ , a protein transport inhibitor containing brefeldin A (Cat. No. 555029). BD GolgiStop™ and BD GolgiPlug™ have been found to have differential effects on intracellular cytokine staining that is time, activator and cytokine dependent. These factors must be considered when carrying out intracellular staining.

Danger: BD GolgiStop™ Protein Transport Inhibitor, containing monensin (component 51-2092KZ) contains 99.61% ethanol (w/w) and 0.26% monensin, mononatriumsalz (w/w).

Hazard statements:
Highly flammable liquid and vapor.
Causes serious eye irritation.
Harmful if swallowed.

Precautionary statements:
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Wear protective gloves / eye protection.
Wear protective clothing.
IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell. Rinse mouth.
Dispose of contents / container in accordance with local / regional / national / international regulations.Keep container tightly closed.

Suggested Companion Products

Catalog Number	Name	Size	Clone
555028	BD Cytofix/Cytoperm Plus Kit (with BD GolgiPlug)	250 Tests	(none)
554715	BD Cytofix/Cytoperm Plus Kit (with BD GolgiStop)	250 Tests	(none)
555029	Protein Transport Inhibitor (Containing Brefeldin A)	1 mL	(none)

BD Biosciences
bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	866.979.9408	32.2.400.98.95	0120.8555.90	65.6861.0633	55.11.5185.9995

For country contact information, visit **bdbiosciences.com/contact**

Product Notices

1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Assenmacher M, Schmitz J, Radbruch A. Flow cytometric determination of cytokines in activated murine T helper lymphocytes: expression of interleukin-10 in interferon-gamma and in interleukin-4-expressing cells. *Eur J Immunol.* 1994; 24(5):1097-1101. (Biology)

Elson LH, Nutman TB, Metcalfe DD, Prussin C. Flow cytometric analysis for cytokine production identifies T helper 1, T helper 2, and T helper 0 cells within the human CD4+CD27- lymphocyte subpopulation. *J Immunol.* 1995; 154(9):4294-4301. (Biology)

Jung T, Schauer U, Heusser C, Neumann C, Rieger C. Detection of intracellular cytokines by flow cytometry. *J Immunol Methods.* 1993; 159(1-2):197-207. (Methodology: Flow cytometry)

Prussin C, Metcalfe DD. Detection of intracytoplasmic cytokine using flow cytometry and directly conjugated anti-cytokine antibodies. *J Immunol Methods.* 1995; 188(1):117-128. (Methodology: Flow cytometry)

Sander B, Hoiden I, Andersson U, Moller E, Abrams JS. Similar frequencies and kinetics of cytokine producing cells in murine peripheral blood and spleen. Cytokine detection by immunoassay and intracellular immunostaining. *J Immunol Methods.* 1993; 166(2):201-214. (Biology)