

Technical Data Sheet

Human Th1/Th2/Th17 Cytokine Standards

Product Information

Material Number:	561666
Size:	1 Vial(s)
Storage Buffer:	Lyophilized in an aqueous buffered solution containing BSA and ProClin™ 150.
Component:	51-9006249
Description:	C) Human Th1/Th2/Th17 Cytokine Standards

Description

The Human Th1/Th2/Th17 Cytokine Standards contains a mixture of individually lyophilized recombinant proteins made up of recombinant Human Interleukin (IL)-2, IL-4, IL-6, IL-10, IL-17A, Interferon- γ (IFN- γ), and Tumor Necrosis Factor (TNF). The reconstituted Human Th1/Th2/Th17 Cytokine Standards are designed for use as standard controls with the BD™ Cytometric Bead Array (CBA) Human Th1/Th2/Th17 Cytokine Kit (Cat. No. 560484). Please refer to the manual included with the BD™ Cytometric Bead Array (CBA) Human Th1/Th2/Th17 Cytokine Kit for further information.

Preparation and Storage

Store the lyophilized standard at 4°C prior to reconstitution.

Lyospheres from 1 vial of the Human Th1/Th2/Th17 Cytokine Standards, when reconstituted in 2.0 mL Assay Diluent, approximates the CBA activity of Human IL-2, IL-4, IL-6, IL-10, IL-17A, Interferon- γ (IFN- γ), and Tumor Necrosis Factor (TNF) at a concentration of 5000 pg/mL. Following reconstitution, maintain the Human Th1/Th2/Th17 Cytokine Standards at 4°C and use within 12 hours. Any unused reconstituted standard must be discarded after this period (do not store or reuse).

Application Notes

Application

Flow cytometry/immunoassay	Routinely Tested
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Recommended Assay Procedure:

The Human Th1/Th2/Th17 Cytokine Standards have been tested with the BD™ Cytometric Bead Array (CBA) Human Th1/Th2/Th17 Cytokine Kit (Cat. No. 560484) to assure function as standards in the CBA assay. Investigators are encouraged to refer to the CBA kit manual or to the abbreviated instruction below (Preparation of Human Th1/Th2/Th17 Cytokine Standards Protocol). The Human Th1/Th2/Th17 Cytokine Standards should be reconstituted using Assay Diluent supplied with the aforementioned CBA kit (component no. 51-2432KC) or the standards may be purchased separately (Cat. No. 560104).

Preparation of Human Th1/Th2/Th17 Cytokine Standards: The Human Th1/Th2/Th17 Cytokine Standards are lyophilized and should be reconstituted and serially diluted before mixing with CBA capture beads and PE detection reagents.

1. Open one vial of the lyophilized Human Th1/Th2/Th17 Cytokine Standards. Transfer all the lyospheres to a 15 mL polypropylene tube (BD Falcon™, Cat. No. 352097). Label the tube "Top Standard".
2. Reconstitute the standards with 2.0 mL of Assay Diluent. Allow the reconstituted standards to equilibrate for at least 15 minutes before making dilutions. **Mix the reconstituted proteins by pipet only. Do not vortex or mix vigorously.**
3. Label additional 12 x 75 mm tubes (BD Falcon™, Cat. No. 352008) and arrange them in the following order: Top Standard, 1:2, 1:4, 1:8, 1:16, 1:32, 1:64, 1:128, and 1:256.
4. Add 300 μ L of Assay Diluent to each of the dilution tubes.
5. Perform a serial dilution by transferring 300 μ L from the Top Standard to the 1:2 dilution tube and mix thoroughly. **Do not vortex, mix by pipet only.** Continue making serial dilutions by transferring 300 μ L from the 1:2 tube to the 1:4 tube and so on to the 1:256 tube and mix thoroughly. Prepare one tube containing only Assay Diluent to serve as the 0 pg/mL negative control.

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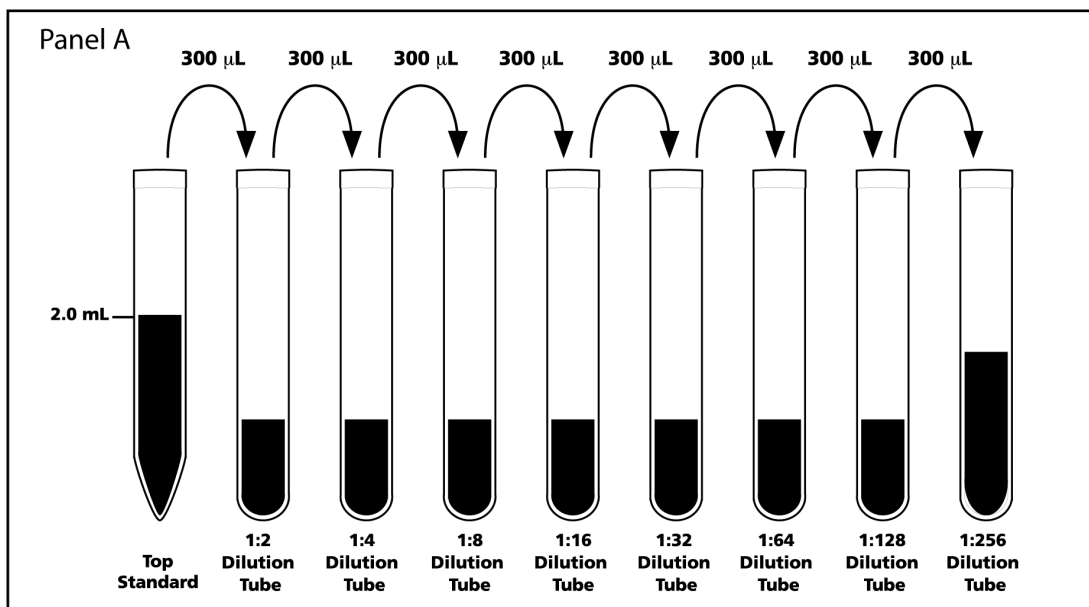
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Panel B

Protein (pg/ml)	Top Standard	1:2 Dilution Tube	1:4 Dilution Tube	1:8 Dilution Tube	1:16 Dilution Tube	1:32 Dilution Tube	1:64 Dilution Tube	1:128 Dilution Tube	1:256 Dilution Tube
Human IL-2	5000	2500	1250	625	312.5	156	80	40	20
Human IL-4	5000	2500	1250	625	312.5	156	80	40	20
Human IL-6	5000	2500	1250	625	312.5	156	80	40	20
Human IL-10	5000	2500	1250	625	312.5	156	80	40	20
Human IL-17A	5000	2500	1250	625	312.5	156	80	40	20
Human IFN- γ	5000	2500	1250	625	312.5	156	80	40	20
Human TNF	5000	2500	1250	625	312.5	156	80	40	20

Preparation of Human Th1/Th2/Th17 Cytokine Standard Dilutions (Panel A) and Human Th1/Th2/Th17 Cytokine Standard Concentrations after Dilutions (Panel B).

Product Notices

- ProClin is a trademark of Rohm and Haas Company.
- This product is manufactured and sold under license from Pestka Biomedical Laboratories, Inc. (d/b/a PBL InterferonSource) and may be used solely as indicated. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics is strictly prohibited. This product is covered by U.S. Patent No. 5,597,901 and Bulgarian Patent No. BG1895.
- Source of all serum proteins is from USDA inspected abattoirs located in the United States.
- Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.
- Warning: CBA lyophilized standard contains 0.02% (w/w) of a CMIT/MIT mixture (3:1), which is a mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC No 220-239-6] (3:1).
Hazard statement: May cause an allergic skin reaction.
Precautionary statements: Wear protective gloves/eye protection. Wear protective clothing. Avoid breathing mist/vapours/spray. If skin irritation or rash occurs: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. Dispose of contents/container in accordance with local/regional/national/international regulations.

References

Cook EB, Stahl JL, Lowe L, et al. Simultaneous measurement of six cytokines in a single sample of human tears using microparticle-based flow cytometry: allergies vs. non-allergics. *J Immunol Methods*. 2001; 254(1-2):109-118. (Methodology: Cytometric Bead Array)
Dotti G, Savoldo B, Takahashi S, et al. Adenovector-induced expression of human-CD40-ligand (hCD40L) by multiple myeloma cells. A model for immunotherapy. *Exp Hematol*. 2001; 29(8):952-961. (Biology: Cytometric Bead Array)

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Kawamoto K, Pahuja A, Hering BJ, Bansal-Pakala P. Transforming growth factor beta 1 (TGF-beta1) and rapamycin synergize to effectively suppress human T cell responses via upregulation of FoxP3+ Tregs. *Transpl Immunol.* 2010; 23(1-2):28-33. (Biology: Cytometric Bead Array)

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