MethoCult™ Express

Methylcellulose-based medium with recombinant cytokines for rapid hematopoietic colony assays of human cells

Catalog #	04447	24 x 3 mL
	04437	100 mL

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Product Description

MethoCult™ Express is intended for use in hematopoietic colony-forming unit (CFU) assays of human cord blood (CB) samples, after a minimum culture period of 7 days. It is recommended for use with red blood cell-depleted CB samples, whole CB samples that have been cryopreserved and thawed, and CB mononuclear cells.

MethoCult™ Express is optimized for the growth and counting of human hematopoietic progenitor cells after much shorter periods than the 14 -16 days of standard CFU assays. In MethoCult™ Express, colonies containing at least 20 cells can be counted as early as after 7 days of culture. At this time, most colonies are immature and have not yet differentiated into morphologically distinguishable colony types. Therefore the colonies counted after 7 days of culture give information about the total frequency of hematopoietic progenitor cells present in the sample without distinction between different progenitor cell types. If MethoCult™ Express cultures are maintained for 14 - 16 days, colonies derived from erythroid progenitor cells (BFU-E), granulocyte-macrophage progenitor cells (CFU-GM, CFU-G, and CFU-M), and multi-potential granulocyte, erythroid, macrophage and megakaryocyte progenitor cells (CFU-GEMM) can be counted.

Properties

Storage: -25°C

Shelf Life: Store at -20°C. Product stable until expiry date (EXP) on label.

Contains:
- Methylcellulose in Iscove's MDM
- Fetal bovine serum
- Bovine serum albumin
- Cytokines, including erythropoietin (EPO)
- Supplements

Handling / Directions For Use

NOTE: If product is received partially thawed, place immediately at -20°C or thaw and aliquot as described below. Do not use MethoCult™ past the expiry date as indicated on the label.

NOTE: Do not use pipettes to dispense methylcellulose as the volume dispensed will not be accurate. Syringes and large bore blunt-end needles should be used for accurate dispensing of viscous methylcellulose medium and to prevent needle-stick injuries.

A. TO PREPARE 100 ML BOTTLE (Catalog #04437)

1. Thaw 100 mL bottle of MethoCult™ at room temperature (15 - 25°C) or overnight at 2 - 8°C. Do not thaw MethoCult™ at 37°C.
2. Shake vigorously for 1 - 2 minutes and then let stand for at least 5 minutes to allow bubbles to rise to the top before aliquoting.
3. Using a luer lock syringe (3 mL [Catalog #28230] or 6 mL) attached to a 16 gauge Blunt-End Needle (Catalog #28110), aliquot as follows:
   - 3 mL per tube for 1.1 mL duplicate cultures
   - 4 mL per tube for 1.1 mL triplicate cultures

   NOTE: Tubes can be used immediately, stored at 2 - 8°C for up to 1 month, or stored at -20°C. After thawing aliquoted tubes of MethoCult™, mix well and use immediately. Do not re-freeze.

B. TO PREPARE 3 ML TUBES (Catalog #04447)

1. Thaw 3 mL tubes of MethoCult™ at room temperature (15 - 25°C) or overnight at 2 - 8°C. Do not thaw MethoCult™ at 37°C. Mix thoroughly.
   NOTE: After thawing tubes of MethoCult™, use immediately or store at 2 - 8°C for up to 1 month. Do not re-freeze.

For recommended cell plating concentrations, setup of human CFU assays, and counting and classification of colonies, refer to the Technical Manual: Human Colony-Forming Unit (CFU) Assays Using MethoCult™ (Document #28404), available at www.stemcell.com or contact us to request a copy.

Notes and Tips

RELATED PRODUCTS

For related products, including specialized culture and storage media, supplements, antibodies, cytokines, and small molecules, visit www.stemcell.com/HSPCworkflow or contact us at techsupport@stemcell.com. For available fresh and cryopreserved peripheral blood, cord blood, and bone marrow products, visit www.stemcell.com/primarycells.

References

Atlas of Hematopoietic Colonies from Cord Blood. STEMCELL Technologies, www.stemcell.com. (Catalog #29940)

Eaves CJ & Eaves AC. (2006) Anatomy and physiology of hematopoiesis. In: Pui CH (Ed.). Childhood Leukemia, Second Edition (pp.69–105). Cambridge: Cambridge University Press.

Eaves C & Lambie K. (1995) Atlas of Human Hematopoietic Colonies. Vancouver: STEMCELL Technologies Inc. (Catalog #28700)

Nissen-Druey C et al. (2005) Human hematopoietic colonies in health and disease. Basel, Switzerland: S. Karger Medical and Scientific Publishers. (Catalog #28760)

Wognum B et al. (2013) Colony forming cell assays for human hematopoietic progenitor cells. In: Helgason CD & Miller CL (Eds.). Basic Cell Culture Protocols (pp. 267–83). Clifton, New Jersey: Humana Press Inc.