

MegaCult™-C Medium Without Cytokines

For assays of human or mouse megakaryocyte progenitor cells



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Catalog #04900	1.7 mL x 24 tubes
#04960	1 Kit
#04970	1 Kit
#04902	35 mL

Product Description

MegaCult™-C Medium Without Cytokines is intended for the culture of megakaryocyte progenitor cells (CFU-Mk) in human bone marrow, mobilized peripheral blood, and cord blood samples, after addition of appropriate cytokines. It is suitable for use with CD34+ enriched cells, mononuclear cells, and cells isolated by other purification methods. It is also intended for assays of megakaryocyte progenitor cells in unseparated or purified cell suspensions of mouse bone marrow, after addition of appropriate cytokines.

MegaCult™-C Medium Without Cytokines contains the following:

- Iscove's MDM
- Bovine serum albumin
- Recombinant human (rh) insulin
- Human transferrin (iron-saturated)
- 2-Mercaptoethanol
- Supplements

Ordering Information

PRODUCT NAME	CATALOG #	SIZE	KIT COMPONENTS
MegaCult™-C Medium Without Cytokines	04900	1.7 mL x 24 tubes	Not applicable
Collagen Solution	04902	35 mL	Not applicable
MegaCult™-C Collagen and Medium Without Cytokines	04960	1 Kit	<ul style="list-style-type: none"> • MegaCult™-C Medium Without Cytokines (Catalog #04900) • Collagen Solution (Catalog #04902)
MegaCult™-C Complete Kit Without Cytokines	04970	1 Kit	<ul style="list-style-type: none"> • MegaCult™-C Medium Without Cytokines (Catalog #04900) • Collagen Solution (Catalog #04902) • Staining Kit for CFU-Mk (Catalog #04962) • Double Chamber Slide Kit (Catalog #04963)

Component Storage and Stability

COMPONENT NAME	CATALOG #	STORAGE	SHELF LIFE
MegaCult™-C Medium Without Cytokines*	04900	Store at -20°C.	Stable until expiry date (EXP) on label.
Collagen Solution	04902	Refer to the Product Information Sheet (Document #1000000159).	
Staining Kit for CFU-Mk	04962	Refer to the Product Information Sheet (Document #10000003435).	
Double Chamber Slide Kit	04963	Refer to the Product Information Sheet (Document #10000003436).	

*This product contains material derived from human plasma. Donors have been tested and found negative for HIV-1 and -2, hepatitis B, and hepatitis C prior to donation. However, this product should be considered potentially infectious and treated in accordance with universal handling precautions.

Directions for Use

For complete instructions for the assay of human or mouse CFU-Mk, refer to the Technical Manual: MegaCult™-C Assay for Quantitation of Human and Mouse Megakaryocytic Progenitor Cells (Document #10000005592), available at www.stemcell.com, or contact us to request a copy.

Please read the entire protocol before proceeding.

1. Thaw tubes of MegaCult™-C Medium Without Cytokines at room temperature (15 - 25°C) or overnight at 2 - 8°C. Place thawed medium and Collagen Solution on ice.
NOTE: If not used immediately, store tubes of MegaCult™-C Medium Without Cytokines at 2 - 8°C for up to 2 weeks.
2. Prepare a mixture of recombinant cytokines at 11X the desired final concentration in Iscove's Modified Dulbecco's Medium (Iscove's MDM; Catalog #36150).
3. To each tube containing 1.7 mL of medium, add 0.3 mL of cytokines (prepared in step 2) to achieve a volume of 2 mL.
4. Prepare a cell suspension at 33X the desired final concentration in Iscove's MDM.
NOTE: Suitable cell density is dependent on the cytokine combination used. Each researcher should establish the appropriate cell concentration for each application. Refer to the Technical Manual (Document #10000005592) for recommended plating concentrations.
5. To each tube containing 2 mL of medium with cytokines, add 0.1 mL of the cell suspension (prepared in step 4).
6. Mix one tube of medium containing cells (2.1 mL total volume).
7. Using a sterile 2 mL serological pipette (e.g. Catalog #38002), transfer 1.2 mL of cold Collagen Solution to the tube. Pipette up and down to mix.
8. Using the same 2 mL pipette, remove 1.5 mL of the final culture mixture and dispense 0.75 mL into each of the 2 wells of a previously labeled MegaCult™-C Double Chamber Slide (Catalog #04813).
9. Dispense another 1.5 mL in the same manner onto a second chamber slide. Remove any air bubbles by gently touching the bubble with the end of the pipette.
NOTE: If more than one tube is being used, Collagen Solution should be added to the first tube only, and the contents should be dispensed into chamber slides before proceeding to the next tube.
NOTE: Chamber slides should be labeled with a pencil or diamond point pen. Ink labeling will become illegible during the fixation process.
10. Gently tip each slide using a circular motion to allow the mixture in the chambers to spread evenly over the surface of the slide.
11. Place each slide in a 100 mm culture dish (e.g. Catalog #38045) containing an open 35 mm culture dish (e.g. Catalog #27100/38069) with 3 mL of sterile water to maintain optimal humidity during the incubation period. Replace lid of 100 mm dish.
12. Transfer the slides to a 37°C incubator with an atmosphere of 5% CO₂ and ≥ 95% humidity. Gel formation will occur within approximately 1 hour. It is important not to disturb the cultures during this time.
13. Incubate for 10 - 12 days. Maximum CFU-Mk colony size and numbers are typically seen at this time. The slides are now ready for fixation and staining. Cultures should be visually assessed for overall colony growth and morphology using an inverted microscope prior to fixation and staining.

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