

**StemXVivo™**  
**Methylcellulose Concentrate**  
**Catalog Number: HSC011**  
**Storage: ≤ -20 °C**

**Product Description**

Methylcellulose Concentrate is a semi-solid medium consisting of methylcellulose in water. Methylcellulose-based media have a variety of uses in cell culture including colony formation for cell selection, plaque assays for viral quantification, embryoid body formation for differentiation of pluripotent stem cells, and colony forming cell (CFC) assays using hematopoietic progenitor cells.

The CFC assay is an *in vitro* quantitative assay used in the study of hematopoietic stem/progenitor cells. The assay is based on the ability of hematopoietic progenitors to proliferate and differentiate into colonies in a semi-solid medium in response to cytokine stimulation. The colonies formed can be enumerated and characterized according to their unique morphology.

The methylcellulose used in the Methylcellulose Concentrate is tested for its ability to support colony formation in CFC assays and background clarity. Individual researchers can customize the concentrate solution by adding the cell type of interest and other media supplements tailored to their specific research interests.

**Reagent Provided**

<b>Methylcellulose Concentrate (Part # 390532)</b>		<b>50 mL</b>
Contents	Concentration	
Methylcellulose (1500 cps) in Water	2.8%	

**Reagent Storage and Handling**

Sterile technique is required when handling this reagent.

- I. Storage
  - A. The Methylcellulose Concentrate should be stored at ≤ -20 °C upon receipt. Storage at 2 °C to 8 °C is not recommended.
- II. Thawing and Aliquotting Methylcellulose Concentrate
  - A. Thaw the bottle of media at 2 °C to 8 °C overnight. Do not shake the bottle if ice is still present.
  - B. After complete thawing, shake the bottle vigorously to thoroughly mix the contents. Air bubbles will form due to the vigorous mixing procedure.
  - C. Allow the air bubbles to escape by placing the bottle either at room temperature or at 2 °C to 8 °C for 30-60 minutes.
  - D. Use a sterile laboratory pipetting needle attached to a 10 mL syringe. Dispense the exact amount of media required into sterile 5 mL vials.
    - ♦ The 5 mL vials from R&D Systems (Catalog # HSC999) are recommended since they are compatible with most laboratory syringes and can accommodate effective mixing of the viscous Methylcellulose Concentrate with cells and other culture components.
    - ♦ Due to the high viscosity of the Methylcellulose Concentrate, use of a syringe is necessary to accurately measure the media volume.
    - ♦ The laboratory pipetting needle from Popper & Sons (Catalog # 7941) or Thermo Fisher Scientific (Catalog # 14-825-16M) is recommended for aliquotting the Methylcellulose Concentrate due to the large diameter. The pipetting needle can be autoclaved and reused.
  - E. Store aliquots at ≤ -20 °C in a manual defrost freezer until use. Do not use past the expiration date.
- III. Thawing Aliquots
  - A. Just before use, bring the vials of Methylcellulose Concentrate to room temperature and thaw without disturbance.

### ***Procedure***

This procedure describes the use of Methylcellulose Concentrate in CFC assays. The protocol for a CFC assay varies depending upon the practice of each laboratory. Please refer to <http://www.RnDSystems.com/go/HumanMethylcelluloseProtocol> for a sample protocol for setting up the Methylcellulose Assay.

The table below provides the recommended volume of cells and supplements/cytokines to be added to the Methylcellulose Concentrate for cell plating. The methylcellulose concentration in the final cell mixture should be 1.27%.

Catalog Number	For experiments using cell samples in	
	Duplicate	Triplicate
HSC011	1.5 mL	2.25 mL
Supplement/Cytokine	1.5 mL	2.25 mL
Cells	0.30 mL	0.45 mL

### ***Precaution***

The acute and chronic effects of overexposure to this media are unknown. Safe laboratory procedures should be followed and protective clothing should be worn when handling this media.

### ***Limitations of the Procedure***

- The safety and efficacy of this product in diagnostic or other clinical uses has not been established.
- The reagent should not be used beyond the expiration date indicated on the label.
- Results may vary due to variations between human hematopoietic progenitors derived from different individuals.