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CARDIAC STEM CELL MAINTENANCE MEDIUM

CATALOG NUMBER: SCM101

LOT NUMBER:

QUANTITY: 500 mL

DESCRIPTION: The Cardiac Stem Cell Maintenance Medium has been optimized and qualified for the growth and expansion of cardiac stem cells derived from rodent origins. Cells expanded in Cardiac Stem Cell Maintenance Medium express the correct cardiac stem cell markers and are furthermore capable of differentiating into cardiomyocytes.

PRESENTATION: Cardiac Stem Cell Maintenance Medium is a proprietary formulation that contains fetal bovine serum. Sterility Testing: Negative

MATERIALS REQUIRED BUT NOT SUPPLIED:

- Cardiac Stem Cell Isolation Kit (Catalog. No. SCR061)
- Cardiomyocyte Characterization Kit (Catalog No. SCR059)
- Accutase™ Cell Dissociation Solution (Catalog No. SCR005)
- Steriflip 100 μm Nylon Net 25 pk (Catalog No. SCNY00100)

CELL CULTURE PROTOCOL:

1. Carefully remove the medium from the 10-cm tissue culture plate containing the confluent layer of cardiac stem cells (CSCs).
2. Apply 3 to 5 mL of Accutase Solution and incubate in a 37°C incubator for 3-5 minutes.
3. Inspect the plate and ensure the complete detachment of cells by gently tapping the side of the plate with the palm of your hand.
4. Apply 5 mL of Cardiac Stem Cell Maintenance Medium (pre-warmed to 37°C) to the plate.
5. Transfer the dissociated cells to a 15 mL conical tube.
6. Centrifuge the tube at 300 xg for 2-3 minutes to pellet the cells.
7. Discard the supernatant.
8. Apply 2 mL of Cardiac Stem Cell Maintenance Medium to the conical tube and resuspend the cells thoroughly. **IMPORTANT: Do not vortex.**
9. Count the number of cells using a hemacytometer.
10. Plate the cells to the desired density into the appropriate flasks, plates or wells in Cardiac Stem Cell Maintenance Medium. We typically plate the cells at ~2 million cells per 10-cm plate or T75 flask.

STORAGE/HANDLING: For long term storage, maintain the media at -20°C. Prior to initial use, thaw frozen media at 4°C overnight or until it has become completely equilibrated. Maintain thawed media at 2-8°C in the dark for up to one month.

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RESULTS:

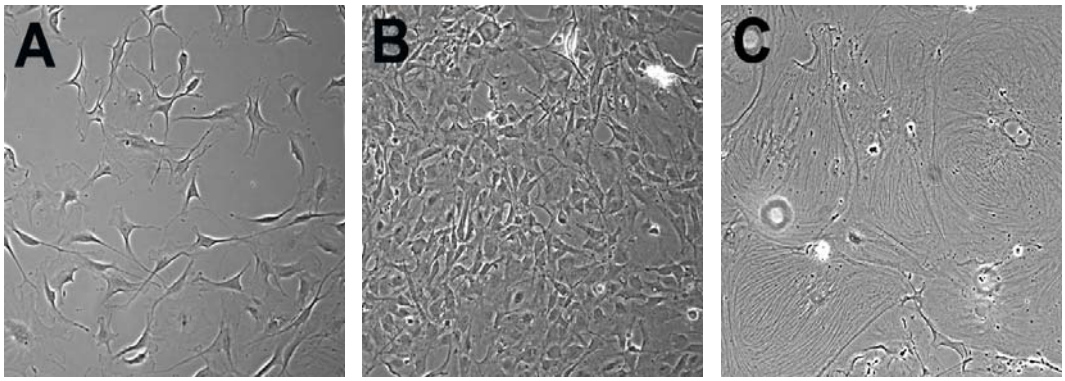

Figure 1. Acutely isolated mouse cardiac stem cells (CSCs) can be cultured, expanded and differentiated into Cardiomyocytes *in vitro*. Representative images of low (A) and high density (B) cultures of purified CSCs cultured in Cardiac Stem Cell Maintenance Medium. CSCs can be differentiated into cardiomyocytes (C) using Cardiomyocyte Differentiation Medium (Cat. No. SCM102). Murine C56/BL6 CSCs were isolated and purifed using Cardiac Stem Cell Isolation Kit (Cat. No. SCR061).

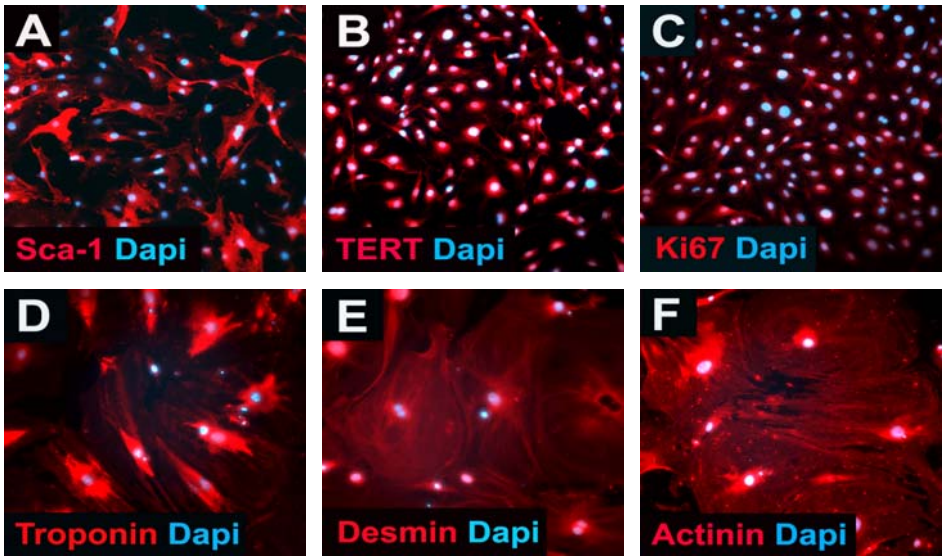

Figure 2. Acutely isolated CSCs cultured in Cardiac Stem Cell Maintenance Medium retain their stem cell characteristcs and efficiently differentiate into cardiomyocytes. One week cultures of purified CSCs ubiquitously express stem cell markers, Sca-1 (**A**) and telomerase (**B**), while remaining in a proliferative state as determined by Ki67 (**C**) immunoreactivity. Differentiated CSCs express mature markers for cardiomyocytes (Cat. No. SCR059), troponin I (**D**), desmin (**E**) and actinin (**F**).

* For color images, please go to www.millipore.com

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