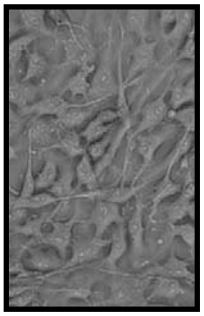
REF: P10401

CARDIAC SYSTEM INNOPROFILE™

RAT CARDIAC MYOCYTES



Product Type:	Cryo-preserved Cardiac Myocytes
Catalog Number:	P10401
Source:	Rat Heart
References:	1 x 10^6 Cardiac Myocytes / vial (1ml)
Storage:	Liquid Nitrogen

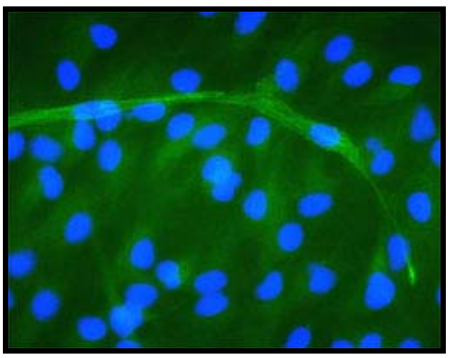
Rat Cardiac Myocytes are isolated from postnatal day 2 CD® IGS rat heart. RCM are cryopreserved at Po and delivered frozen. RCM are guaranteed to further culture at the conditions provided by in this technical sheet.

The cardiac myocyte is the most physically energetic cell in the body. Its contraction is independent of nervous stimulation. All cardiac myocyte are capable of spontaneous rhythmic depolarization and repolarization of their membrane. Differentiated cardiac myocytes have little capacity to proliferate and show the hypertrophic growth in response to alpha1-adrenergic stimuli via the Ras/MEK pathway Cardiac myocyte hypertrophy and apoptosis have been implicated in the loss of contractile function during heart failure. Cardiac myocytes have a complex network of signals that regulates their essential role in the rhythmic pumping of the heart. This network is an appealing model system in which to study the basic principles of cellular signaling mechanisms leading to cardiac myocyte death.

Recommended Medium

Cardiac Myocyte Medium

(Reference: P60103)



Product Characterization

Immunofluorescent method

- Smooth muscle actin
- sacromeric alpha-actinin

The cells test negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast and fungi

Product Use

THESE PRODUCTS ARE FOR RESEARCH USE ONLY. Not approved for human or veterinary use, for application to humans or animals, or for use in vitro diagnostic or clinical procedures

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INSTRUCTIONS FOR CULTURING CELLS

IMPORTANT: Cryopreserved cells are very delicate. Thaw the vial in a 37 °C waterbath and return them to culture as quickly as possible with minimal handling!

Set up culture after receiving the order:

1. Prepare a poly-L-lysine coated flask (2 µg/cm², T-75 flask is recommended). Add 10 ml of sterile water to a T-75 flask and then add 15 µl of poly-L-lysine stock solution (10 mg/ml). Leave the flask in incubator overnight (minimum one hour at 37oC incubator).

2. Prepare complete medium: decontaminate the external surfaces of medium and medium supplements with 70% ethanol and transfer them to sterile field. Aseptically open each supplement tube and add them to the basal medium with a pipette. Rinse each tube with medium to recover the entire volume.

3. Rinse the poly-L-lysine coated flask with sterile water twice and add 20 ml of complete medium to the flask. Leave the flask in the hood and go to thaw the cells.

4. Place the vial in a 37°C waterbath, hold and rotate the vial gently until the contents are completely thawed. Remove the vial from the waterbath immediately, wipe it dry, rinse the vial with 70% ethanol and transfer it to a sterile field. Remove the cap, being careful not to touch the interior threads with fingers. Using a 1 ml eppendorf pipette gently re-suspend the contents of the vial.

5. Dispense the contents of the vial into the equilibrated, poly-L-lysine coated culture vessels. A seeding density of 5,000 cells/cm² is recommended.

   Note: Dilution and centrifugation of cells after thawing are not recommended since these actions are more harmful to the cells than the effect of DMSO residue in the culture.

   It is also important that RMC are plated in poly-L-lysine coated flask that promotes cell attachment and growth.

6. Replace the cap or cover, and gently rock the vessel to distribute the cells evenly. Loosen cap if necessary to permit gas exchange.

7. Return the culture vessels to the incubator.

8. For best result, do not disturb the culture for at least 16 hours after the culture has been initiated. Change the growth medium the next day to remove the residual DMSO and unattached cells, then every other day thereafter.

Maintenance of Culture:

1. Refresh supplemented culture medium the next morning after establishing a culture from cryopreserved cells.

2. Change the medium every three days thereafter.

RCM are not recommended to be subcultured because this cell type will terminally differentiate in long-term cultures.

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