Regenix™ Heart

PROTOCOL

Regenix™ Heart is composed of various basement membrane proteins separated from heart tissues. Regenix™ Heart can be utilized for two-dimensional (2D) and three-dimensional (3D) culture of cardiomyocytes. In particular, Regenix™ Heart can provide an optimized environment for cardiac spheroids composed of pluripotent stem cells (PSC)-derived and directly reprogrammed cardiomyocytes.

PROCEDURE

3D culture of cardiac spheroid using Regenix™ Heart

01 Thaw Regenix™ Heart for at least 4 hours by submerging the vial in an ice bucket and storing it in a 4°C refrigerator before use. Avoid multiple freeze/thaw cycles.

02 Mix Regenix™ Heart by slowly pipetting; Be careful not to create air bubbles during this process.

Note Regenix™ Heart may form a gel at temperature above 10°C. The temperature must be lowered to between 4°C and 8°C throughout all handling processes to ensure depolymerization.

03 Add Regenix™ Heart to the cell pellet or spheroids and resuspend evenly by slow pipetting.

Note It is recommended to remove as much of the supernatant as possible before adding the Regenix™ Heart.

04 Dispense 30-40 µL of the mixture to each well of a 48-well plate, and then incubate at 37 °C for 40 mins.

Note For suspension cultures, dispense Regenix™ Heart droplets on a sheet of Parafilm for easy detachment after gelation.

05 Add an appropriate volume of medium very slowly.

Note If you need to add 300 µL per well medium to each well, add the medium slowly and carefully over 15 seconds.

Note For suspension cultures, solidified Regenix™ Heart droplets are removed by creating a gentle flow of medium over the parafilm to move the droplets into the 24-well plates.