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Recovery method of cells embedded in MatriMix

MatriMix gel is a collagen-based culture substrate, so it can be digested with collagenase. Collagenase (Brightase-C) is available for purchase from Nippi, incorporated.

I. Instructions for use

Protocol optimization is necessary depending on the gel volume and the cell types. Verify the amount of enzymes needed for gel digestion beforehand. The following is an example of recovering cells from a 200 µL gel in a 12-well plate and re-embedding culture.

(1) Remove the medium and wash the gel with PBS (-).
(2) Add 0.5 mg of Brightase-C per gel (0.5 mg/mL Brightase-C, 1 mL).
*Dilute Brightase-C with a medium or PBS containing calcium ions (>2 mM).
(3) Incubate the gel in a CO_2 incubator set at 37°C for at 15-30 minutes.
*Observe the digestion of the gel as appropriate. If digestion is insufficient, extend the incubation time.
(4) Collect the cells by centrifugation.
(5) Collect the remaining cells in the 12-well plate with 1 mM EDTA/PBS (-) and mix with the cells in step (4).
(6) Collect the cells by centrifugation.
(7) Add an appropriate amount of 0.25% Trypsin/EDTA.
*When the cell clumps are not dispersed, steps (7) through (10) are not required. However, when re-embedded with MatriMix gel, the remaining Brightase-C inhibits gelling of MatriMix. Therefore, wash the cells thoroughly with 1 mM EDTA/PBS (-).
(8) Incubate the cells in a CO_2 incubator set at 37°C for at 3-5 minutes.
(9) Add FBS (+) medium or Trypsin neutralizing solution and mix gently.
(10) Collect the cells by centrifugation.
(11) Mix the cells with an appropriate amount of culture medium.
(12) Measure the number of cells.
(13) The required amount of cells is collected and centrifuged again.
(14) Re-embed the cells according to the “In Gel” embedded culture protocol of MatriMix (511).

II. Other Information

If you have any questions, please refer to the MatriMix website (https://matrimix.nippi.bio/) for FAQs or contact us at MatriMix@nippi-inc.co.jp.