

## Preparation of PLA scaffolds via Thermally Induced Phase Separation

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Poly(L-lactic acid) (PLLA) scaffolds are currently being tested for hard-tissue cell transplantation, and are fabricated by various techniques. Recently, thermally induced phase separation(TIPS) and freeze-drying have been used to prepare 3D macroporous PLLA scaffold. In the present study, we investigated the effect of the addition of PEG-PLLA diblock and PEG on the morphology of PLLA scaffold. A regular and highly interconnected macroporous poly(L-lactic acid)(PLLA) scaffold was fabricated from a PLLA dioxane water ternary system with added polyethylene glycol(PEG)-PLLA diblock using thermally induced phase separation(TIPS). The porous morphology is determined by the final thermodynamic state and controlled by TIPS parameter. MC3T3-E1 cell, osteoblast like cell line, is seeded and cultured in the produced PLLA scaffold. The porous morphology and cell culture were characterized by scanning electron microscopy(SEM).