Protocol

Collagen-Embedded Tumor Transplantations

11. Allow the tadpole to recover from the procedure.

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Problem (Step 3): The collagen setting solution polymerizes before mixing with the tumor cells.
Solution: The reagents were not sufficiently chilled. Keep all reagents and cells on ice before preparing grafts in a six-well plate.

Problem (Step 6): The collagen setting solution does not polymerize.
Solution: The pH of the collagen setting solution was not optimized to neutral. The color should be light orange with a ring of light pink on the top.

Problem (Step 6): Air bubbles are present in the grafts.
Solution: Air bubbles can be introduced into the grafts while mixing the collagen setting solution. Collagen is very viscous, so the collagen setting solution should be pipetted very slowly to avoid air bubbles.

Problem (Step 6): Tumor cells are not dispersed evenly in the graft.
Solution: While mixing the collagen setting solution with the tumor cells, make sure the cells are evenly dispersed in the mixture.

Problem (Step 11): The collagen-embedded tumor transplant does not stay attached.
Solution: For transplantation of collagen-embedded cells, the incision and the pocket under the tadpole skin should be as small as possible.

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With the aid of intravital microscopy (confocal, two photon), the collagen-embedded tumor graft model offers an opportunity to study the in vivo and real-time processes involved in tumor estab-

FIG E 1. Dorsal view of a tadpole of the inbred MHC homozygous F strain grafted with semisolid ff-2 tumors on both sides of the head viewed by a fluorescent dissecting microscope. ff-2 tumor cells (1×10^5) are unlabeled (side) or labeled with PHK-26 (side). Bar size, 2 mm.

lishment and growth, neovascularization, collagen remodeling, infiltration of immune cells, migra-

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