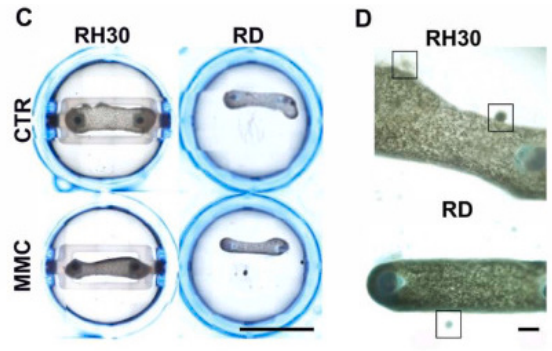
3D-Bioprinted Pediatric Soft Tissue Sarcoma Model

D'Agostino S, Rimann M, Gamba P, Perilongo G, Pozzobon M, Raghunath M. Macromolecular crowding tuned extracellular matrix deposition in a bioprinted human rhabdomyosarcoma model. Bioprinting (2022): 27, e00213.

Overview

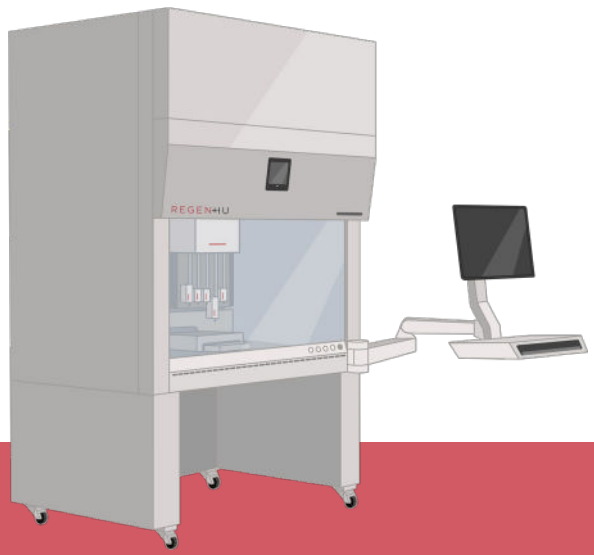
Rhabdomyosarcoma (RMS) is among the most prevalent and aggressive pediatric tumors. The application of 3D models recapitulating the tumor tissue and its ECM composition represents a promising approach for studying RMS microenvironment and creating a platform for cancer drug testing.

In this study, 3D models of embryonal and alveolar Rhabdomyosarcoma were developed. Researchers applied macromolecular crowding to 3D-bioprinted constructs obtained by deposition of RMS cells embedded in Matrigel®.



Results

- 3D-bioprinted model resembling ex vivo tumor morphology
- Migration and escape of cancer cells form the model following methastatic mechanisms



REGENHU's drop-on-demand technology (PDD) enables:

Automated approach
Process performed directly in 24-well plates

Temperature control
Matrigel® printed easily at lower temperatures

Interested to know more ?

info@regenhu.com | regenhu.com