

3D-Bioprinted Osteosarcoma Model for Drug Testing

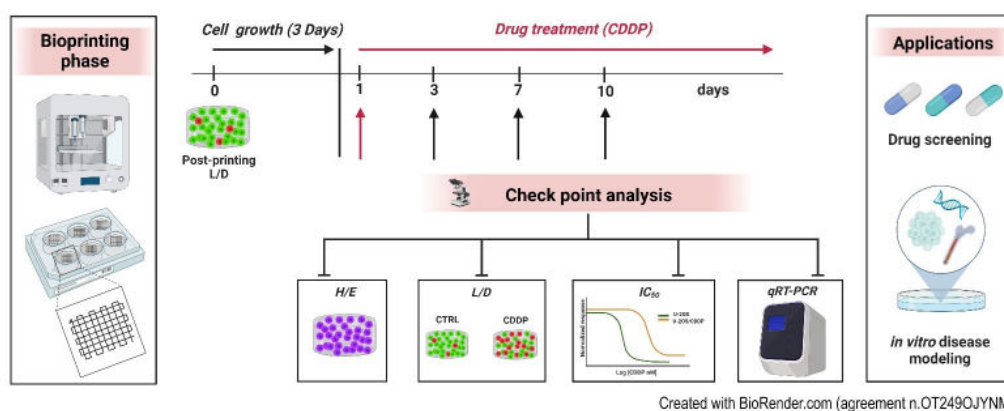


Pellegrini E, Desando G, Petretta M, Cellamare A, Cristalli C, Pasello M, Manara MC, Grigolo B, Scotlandi K. A 3D Collagen-Based Bioprinted Model to Study Osteosarcoma Invasiveness and Drug Response. *Polymers* 2022, 14, 4070.

Overview

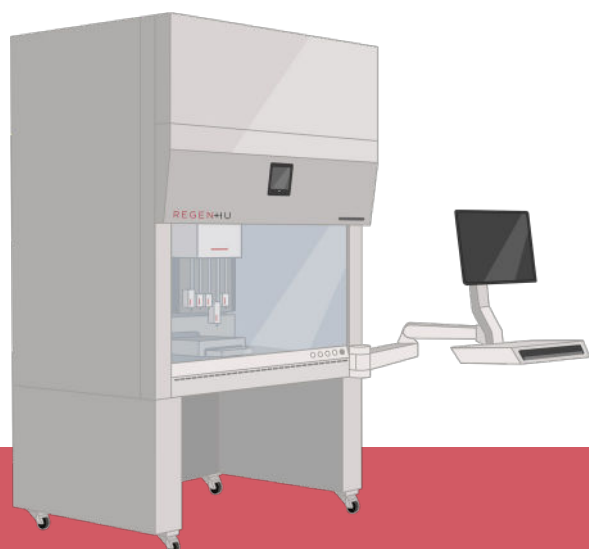
Osteosarcoma (OS) is a highly aggressive bone malignancy primarily affecting adolescents and young adults. Its chemoresistant or metastatic forms are therapeutically challenging. The interactions between OS cells and the complex bone microenvironment play a critical role in regulating cancer invasion and drug resistance. Understanding this process is critical for developing efficient treatments.

In this study, researchers fabricated 3D-bioprinted *in vitro* osteosarcoma models by embedding standard and CDDP-resistant cell lines in a collagen-based bioink.



Results

- ✓ Bioprinted models capable of mimicking disease malignant features (proliferation and metastasis)
- ✓ Enhanced predictiveness of response to chemotherapeutics compared to 2D models



REGENHU's bioprinting technology enables:

Automated approach

Process performed directly in 12-well plates

Accuracy

Average measured fiber diameter of 341.98µm (vs. design of 330µm) and pore size of 1701µm (vs. design of 1700µm)

Interested to know more ?

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