International Journal of Bioprinting

RESEARCH ARTICLE

Fabrication of lumen-forming colorectal cancer organoids using a newly designed laminin-derived bioink

Supplementary File

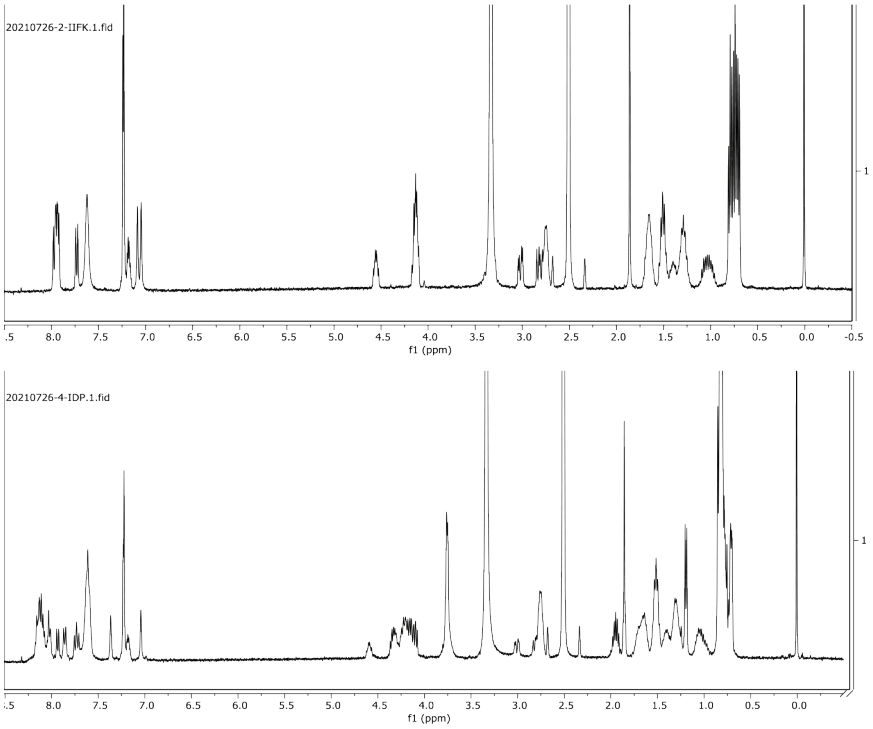


Figure S1. ^{1}H-NMR spectra for IIFK (top) and IDP (bottom) for confirmation.

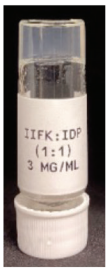
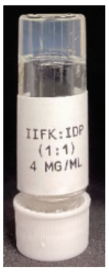
Concentration	1 mg/mL	2 mg/mL	3 mg/mL	4 mg/mL	5 mg/mL	6 mg/mL	7 mg/mL
IIFK							
Gelation time	2:30:00	0:30:00	0:10:00	0:07:00	0:06:00	0:05:00	0:04:00
IKVAV							
Gelation time	/	/	24:00:00	3:00:00	0:08:00	0:05:00	0:01:00
IDP							
Gelation time	/	0:02:00	0:02:00	0:20:00	0:10:00	0:04:00	0:03:00
IIFK:IDP 1:1							
Gelation time	/	/	> 0:01:00	> 0:01:00	> 0:01:00	> 0:01:00	> 0:01:00

Figure S2. Inverted vial tests for IIFK, IDP, IKVAV, and IIFK:IDP (1:1) mixture.

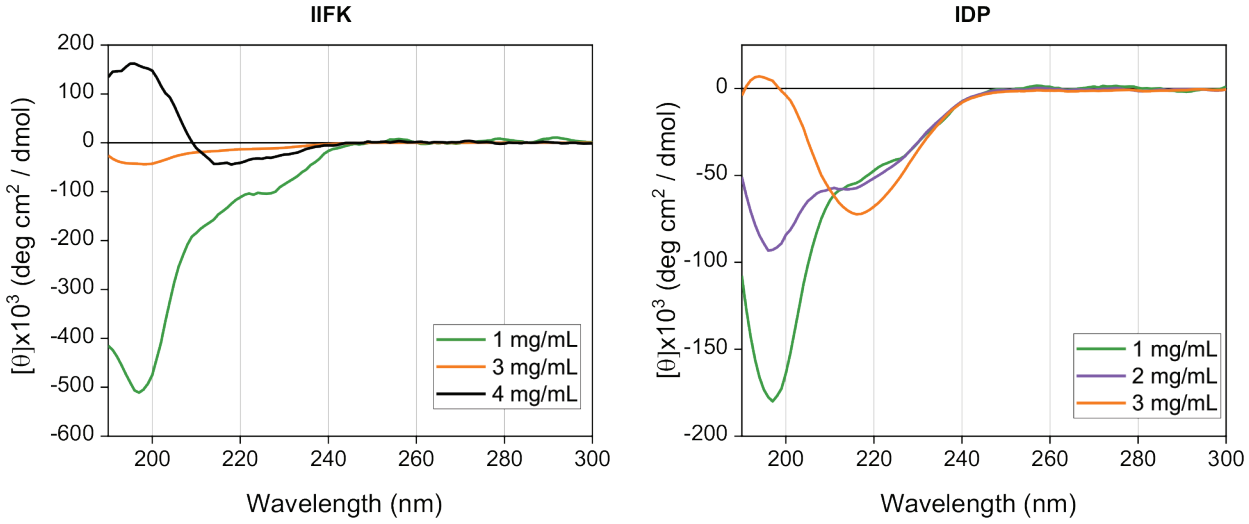


Figure S3. CD spectroscopy to identify the secondary structure transitions of IIFK and IDP in dependence to concentration.

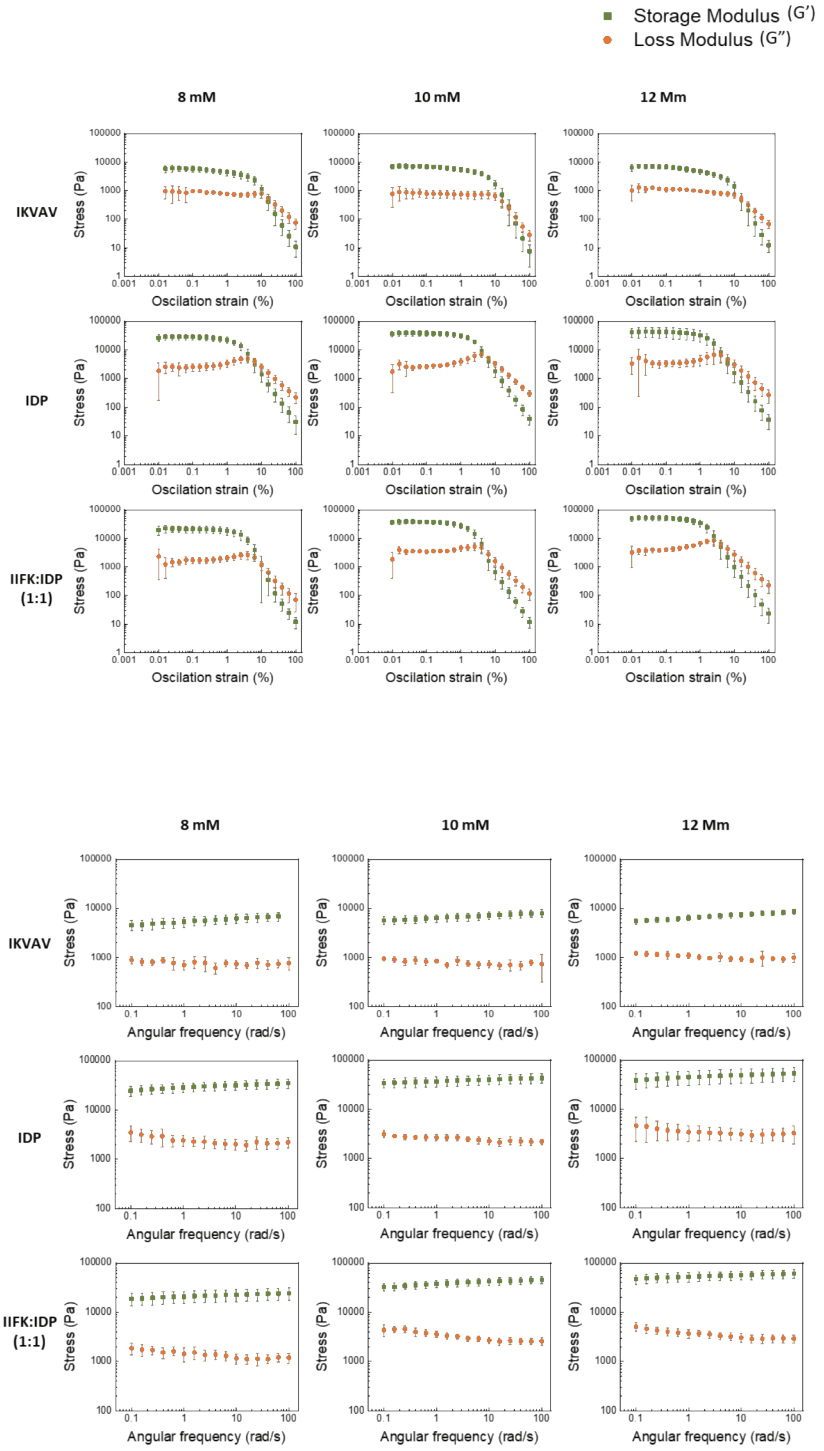


Figure S4. Rheological tests for IKVAV, IDP, and IIFK:IDP (1:1). Oscillation sweep (top) and frequency sweep (bottom).

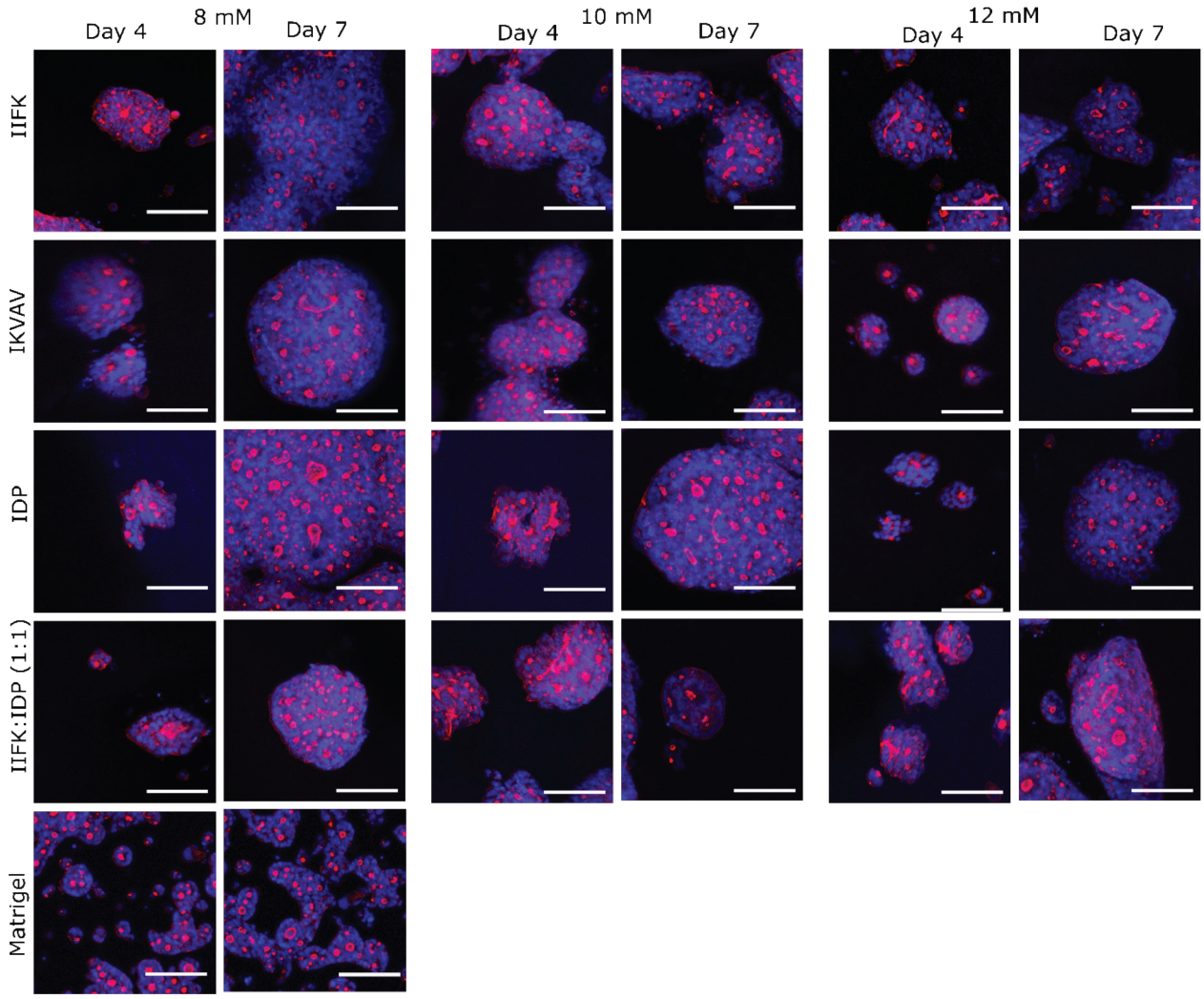


Figure S5. Colorectal cancer cell SW1222 cultured for four and seven days in SAP scaffold.

Other files

Videoclip S1. Z-stack of IIFK:IDP hydrogel scaffold sample at a concentration of 8 mM showing the morphology of organoids and lumens at day 7. Rhodamine phalloidin is used to stain F-actin (red), and DAPI is used to stain the nucleus (blue). Inverted confocal microscope Zeiss LSM710 was used to take the z-stack.

Videoclip S2. Z-stack of IIFK:IDP hydrogel scaffold sample at a concentration of 10 mM showing the morphology of organoids and lumens at day 7. Rhodamine phalloidin is used to stain F-actin (red), and DAPI is used to stain the nucleus (Blue). Inverted confocal microscope Zeiss LSM710 was used to take the z-stack.

Videoclip S3. Z-stack of IIFK:IDP hydrogel scaffold sample at a concentration of 12 mM showing the morphology of organoids and lumens at day 7. Rhodamine phalloidin is used to stain F-actin (red), and DAPI is used to stain the nucleus (Blue). Inverted confocal microscope Zeiss LSM710 was used to take the z-stack.

Videoclip S4. Z-stack of Matrigel scaffold sample showing the morphology of organoids and lumens at day 7. Rhodamine phalloidin is used to stain F-actin (red), and DAPI is used to stain the nucleus (Blue). Inverted confocal microscope Zeiss LSM 710 was used to take the z-stack.