

CC Tray

3D printing resin for custom trays

Version 1.1

CC tray is a biocompatible certified Class I medical device, developed by ENLIGHTEN MATERIALS Co., Ltd for the printing of dental custom tray using high resolution 3D printers. It has high flexural strength, low shrinkage and excellent cytocompatibility. It has been approved by TFDA, and it can be used for DLP and SLA 3D printers.

Procedures for post-processing

1. Printing

Pour CC tray resin into the resin tank of a 3D printer, and import the custom tray model into the 3D printer for printing.

2. Washing

Remove the custom trays from the build platform and soak in IPA (isopropanol) or 95% ethanol to remove the extra resin. Use an ultrasonic cleaner if necessary. Please be aware that IPA and ethanol must NOT be placed directly in the tank of the ultrasonic cleaner.

3. Drying

Ensure the custom tray clean. Do not remain liquid resin or ethanol.

4. Post-Curing

For post-curing, the curing energy and curing time depends on the post-curing unit. For example, a good surface hardness and biocompatibility can be achieved by 10 minutes of post-curing using a 36W (12W CCFL + 24W LED) UV curing box at 405nm or using Formlabs FormCure curing box at 405nm at 60°C for 15 minutes.

Sterilization

Sterilization of the printed custom tray using 70% ethanol is recommended.

Material Properties

Property	Value
Flexural Strength	2397 MPa
Flexural Modulus	95 MPa
Hardness	78 Shore D

Viscosity

0.74 Pa·s

Biocompatibility testing (According to EN-ISO 10993-5:2009)

Sample	Received Date	Result 1: Morphology	Result 2: MTT assay	Average	Cytotoxicity
CC tray	2018.02.07	0	0	0	None

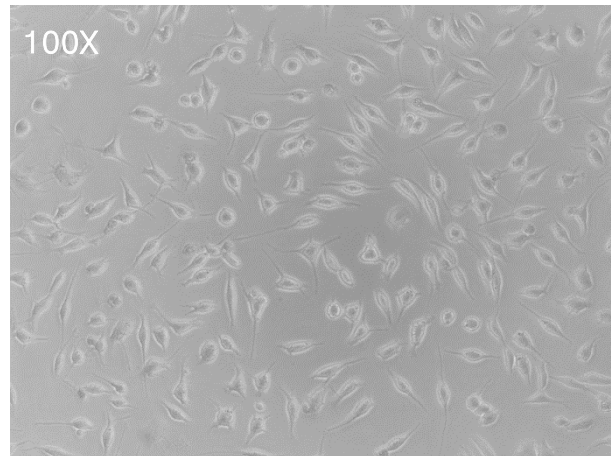
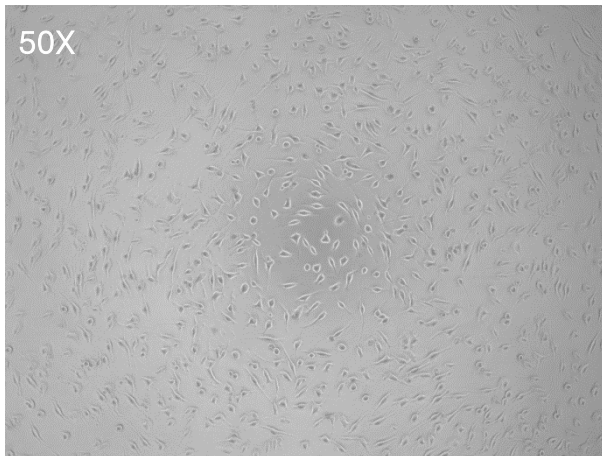
Cytotoxicity: 0 = None, 0~1 = Slight, 1~2 = Mild, 2~3 = Moderate, 3~4 = Severe.

Extraction medium condition

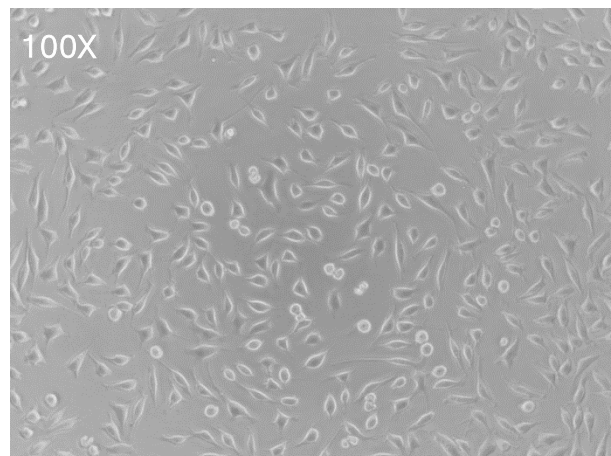
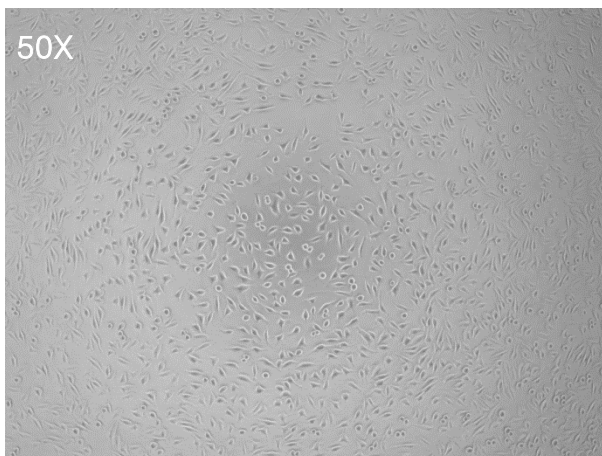
Sample	Received Date	Surface Area (cm ²)	Volume of Extraction Medium (ml)	Extraction Temp (°C)
CC tray	2018.02.07	6	2	37

Qualitative morphological grading

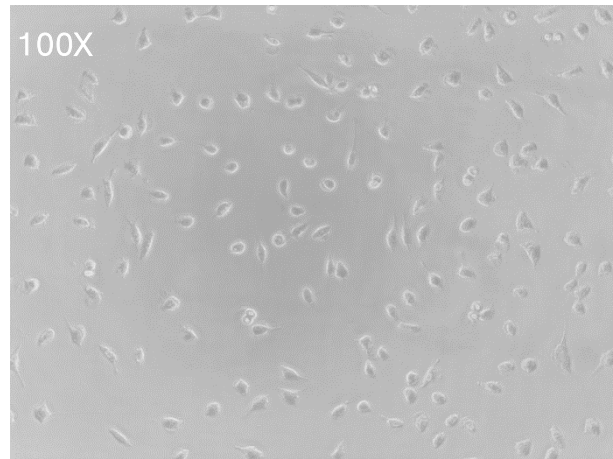
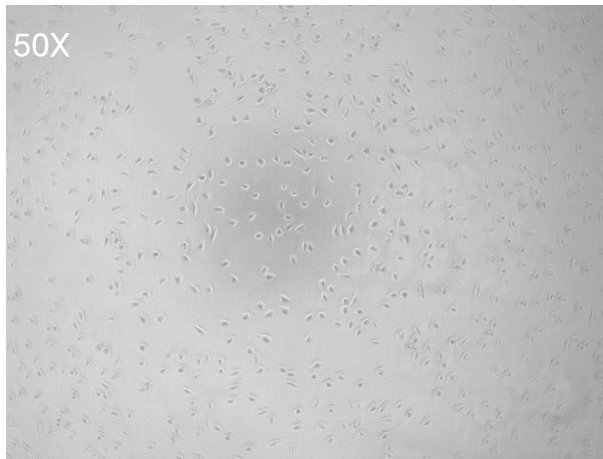
1. CC tray (0)



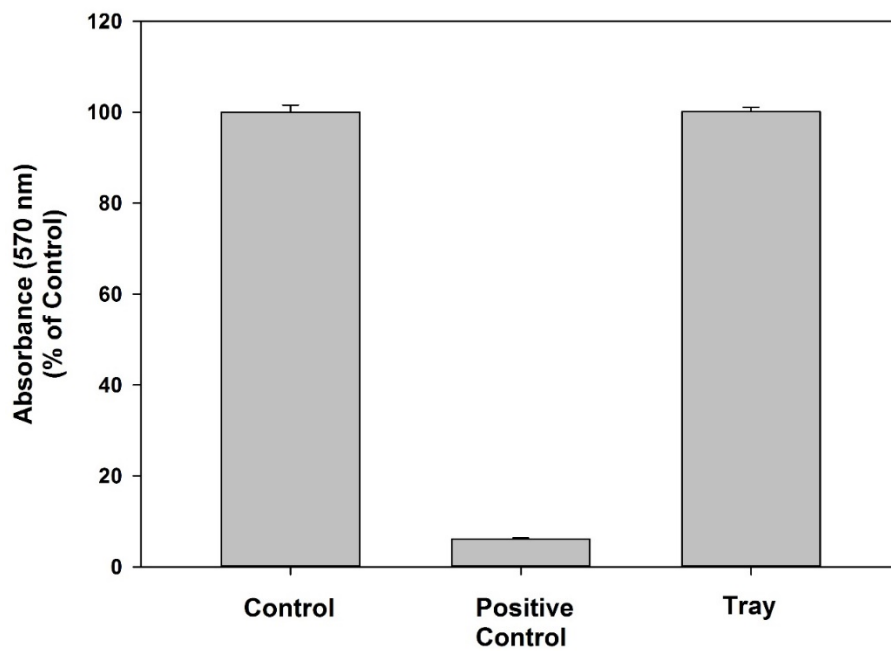
2. Negative Control (0)



3. Positive Control (4)



MTT cytotoxicity test



MTT test grading

Sample	Cytotoxicity (%)	MTT test grading
CC tray	-0.09 %	0
Positive	93.87 %	4
Control		

Grade: < 10% = 0 10~30% = 1 30~50% = 2 50~70% = 3 > 70% = 4