

A

Non-structural proteins (Nsp) regions
Structural and accessory proteins regions

Whole genome
*MN908947 NC_045512

Pp1ab: Nsp 1-16 *YP 0097243891



B

PDB
6VXS 6WCF
6W02 6WEN
6W6Y 6WEY
6W9C 6YWK
6YWL 6YWM
6WRH 6WOJ

Mpro

PDB:
6Y2E 6Y84
6M03 6M0K
6Y2G 6YNQ
6LU7 6LZE
6M2Q 6M2N
7BUY
7BQY 5REA→5REP 5RF0→5RF9
5R80→5R84 5RER→5REZ 5R7Y→5R7Z
5RG0→5RG3 5RE4→5RE9 5RGG→5RGS
5RFA→5RFZ 6WQF 6YT8
6WNP

RdRp

PDB:
7BTF 6M71

PDB:
6VWW 6WLC
6W01

See panel C

PDB:
7a 6M3M 6WVO
6W37 6WJI 6WKP
6YI3

I Drug Target:

Virus critical Enzymes/Proteins
To inhibit the virus replication

PDB:
6W4H 6W75
6W61 6WJT
6WKQ 6WQ3
6WKS

C

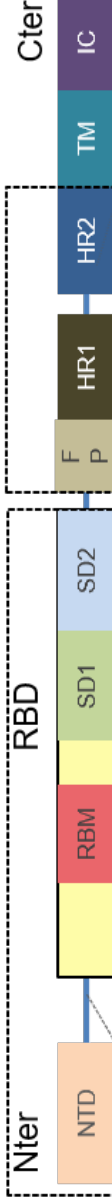
Spike *YP
009724390.1

PDB:
6VXX
6VYB
6VSB

RBD

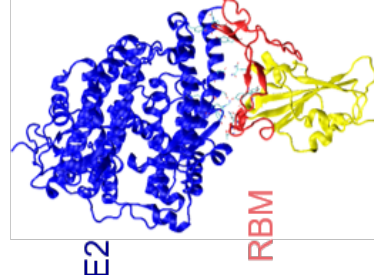
PDB:
6VW1#
6LZG#
6YLA
6YM0

Complex with ACE2

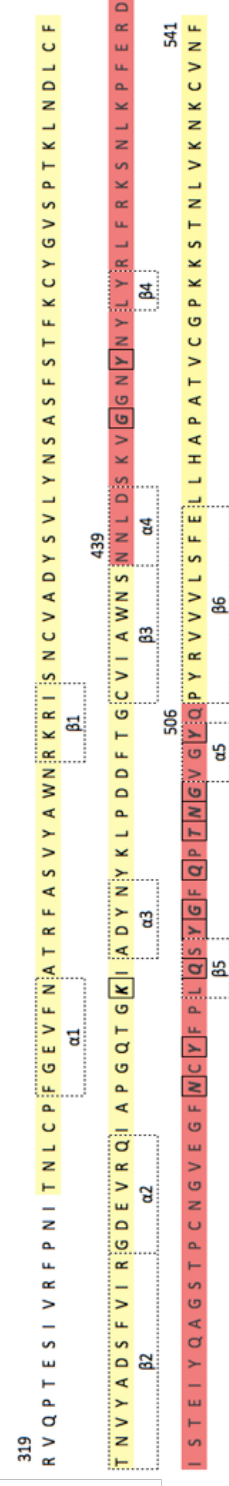


II Drug Target:

Block the virus binding to human cell receptors

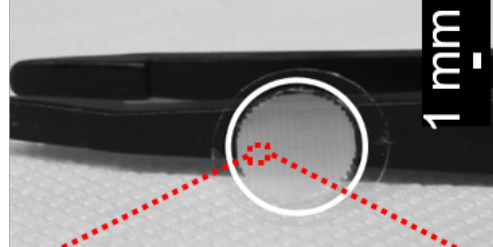
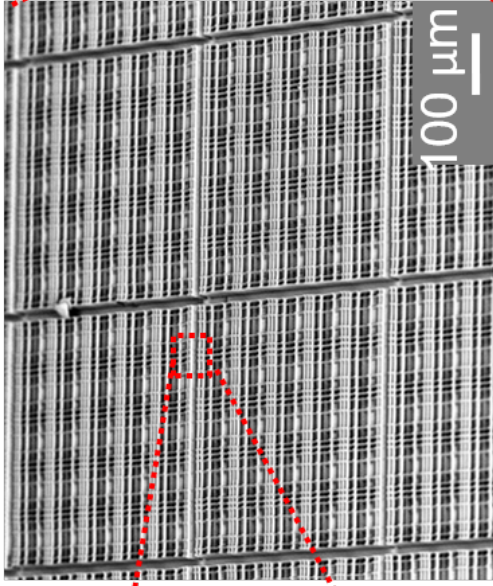
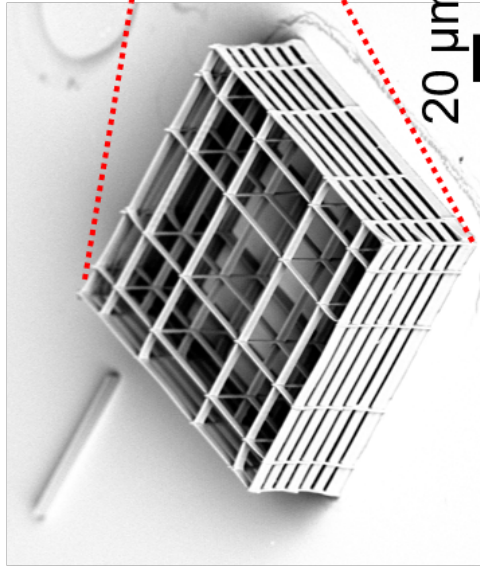


PDB: 6M0J

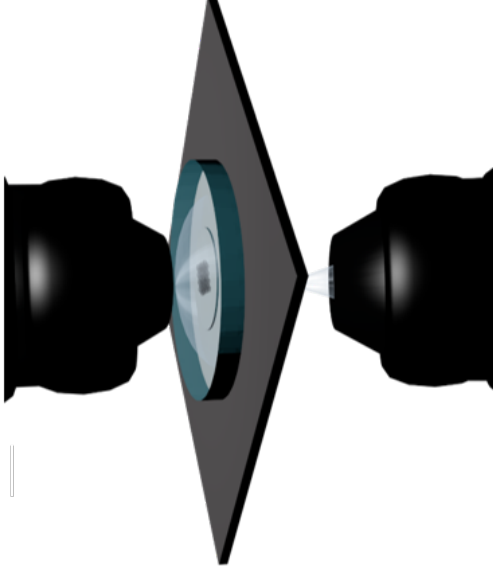


X Receptor Binding Domain (RBM)
X ACE2 Bind
X α helix / β sheet

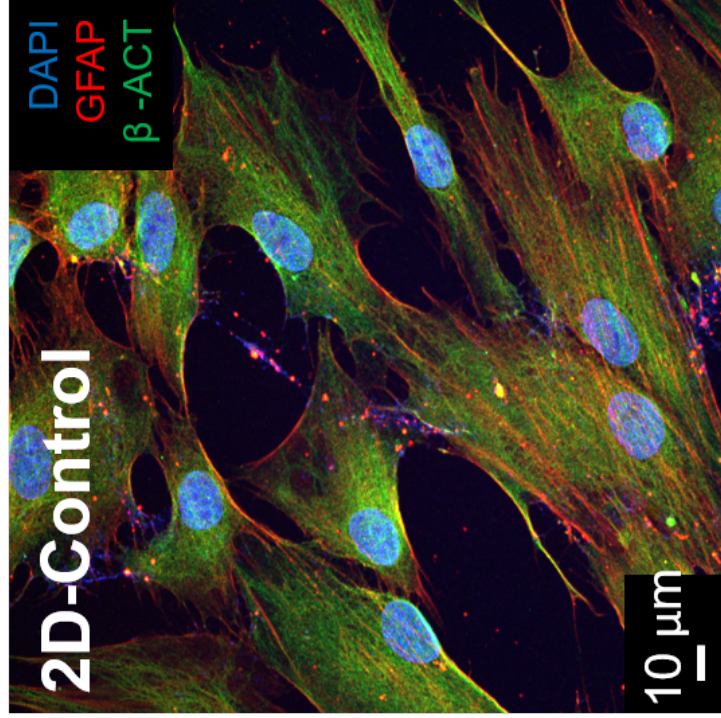
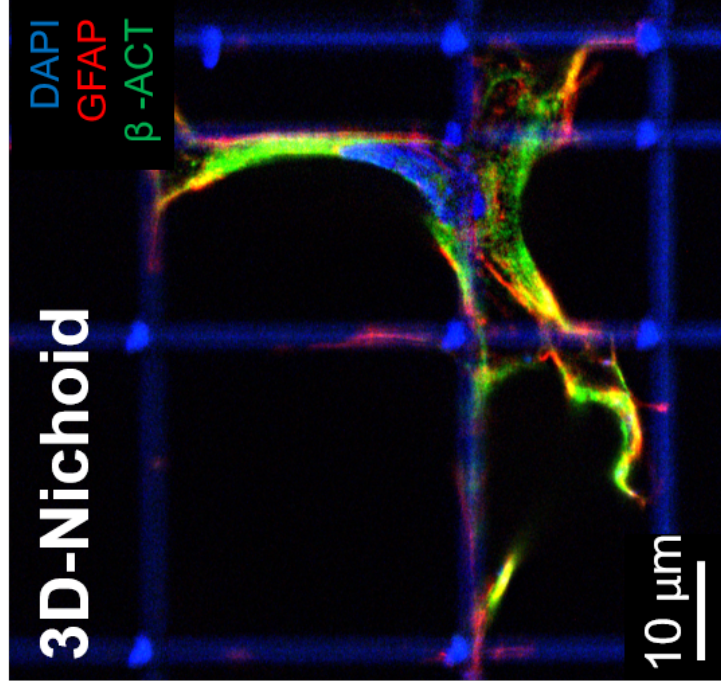
A



B



C

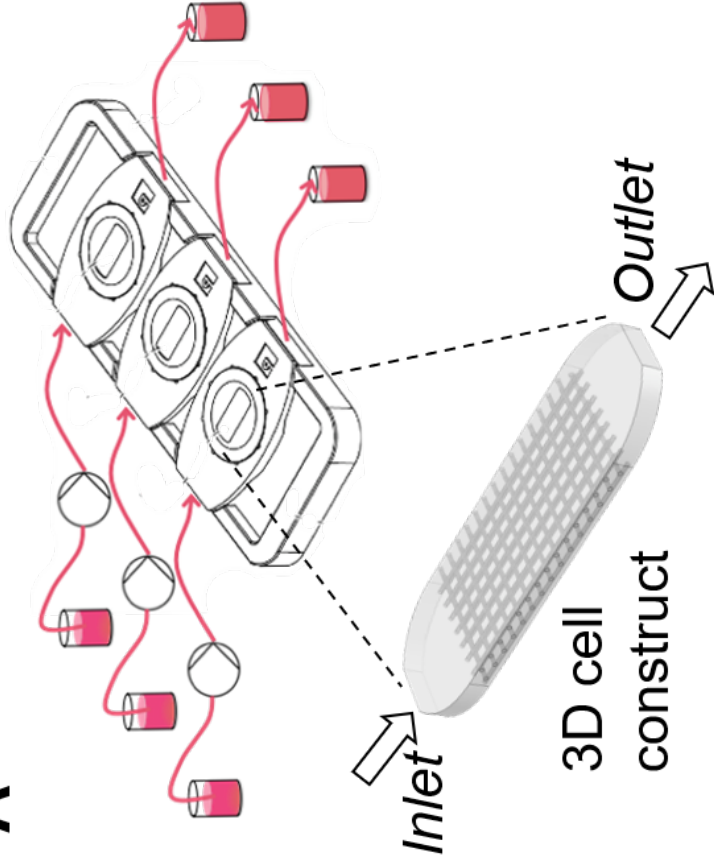
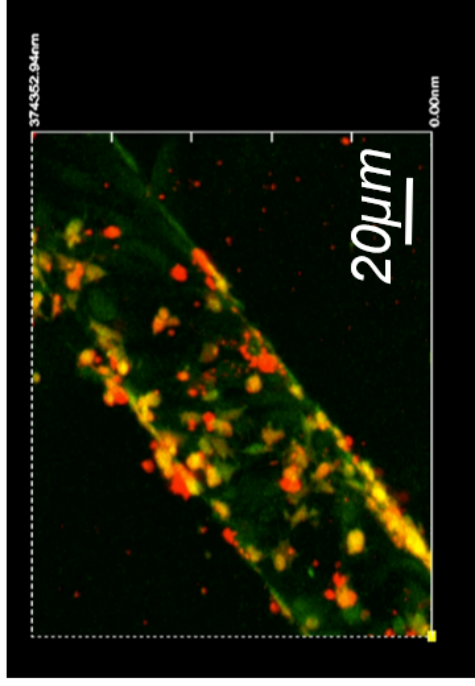
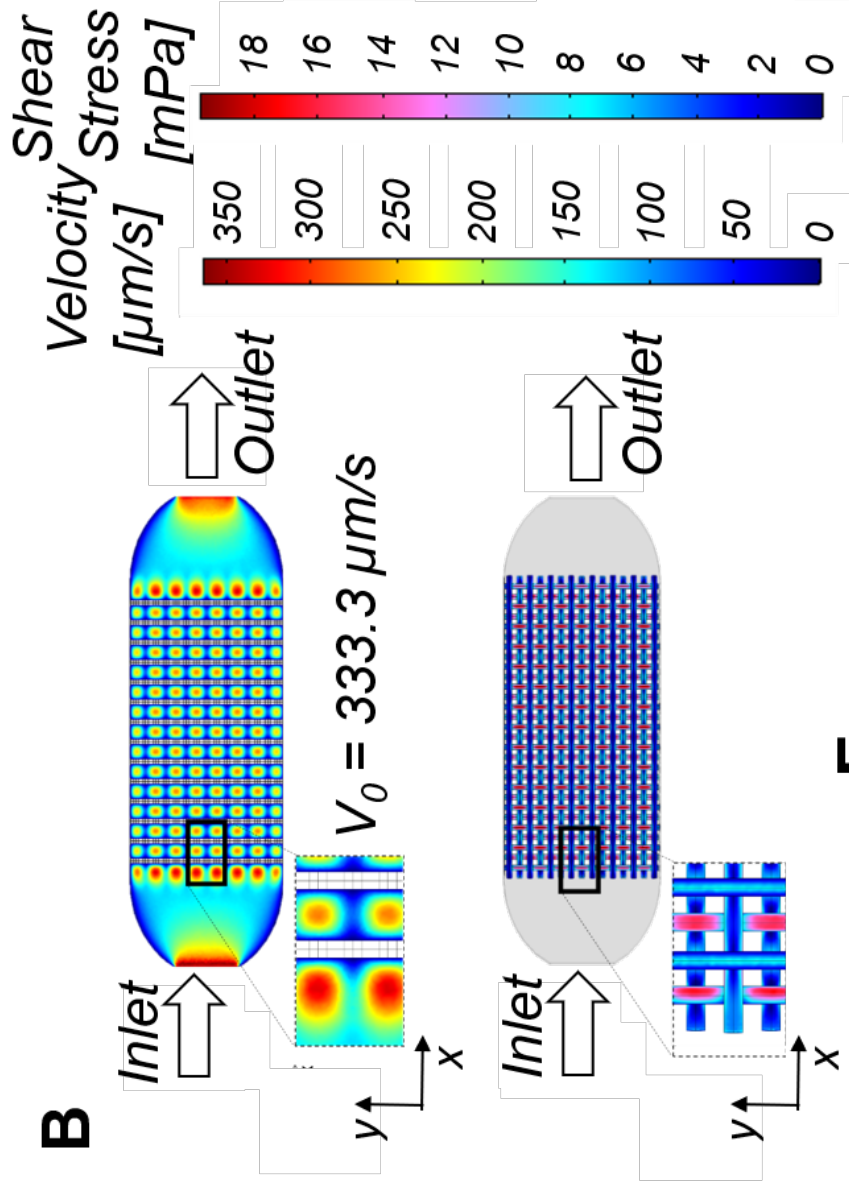
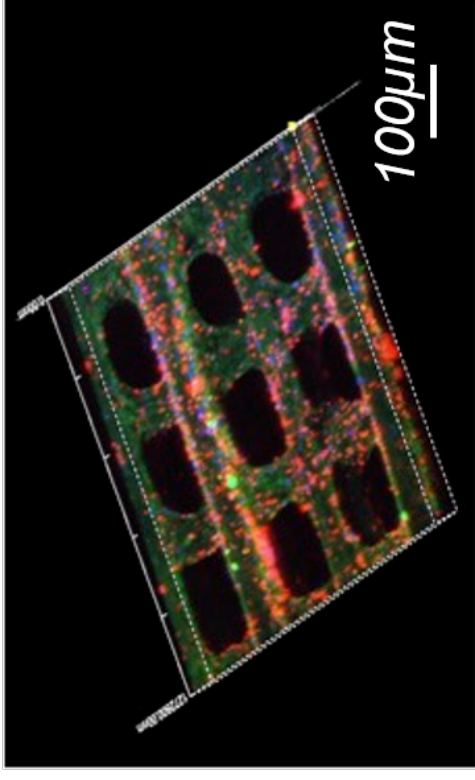


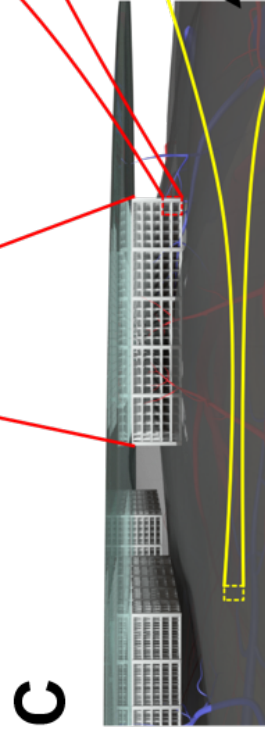
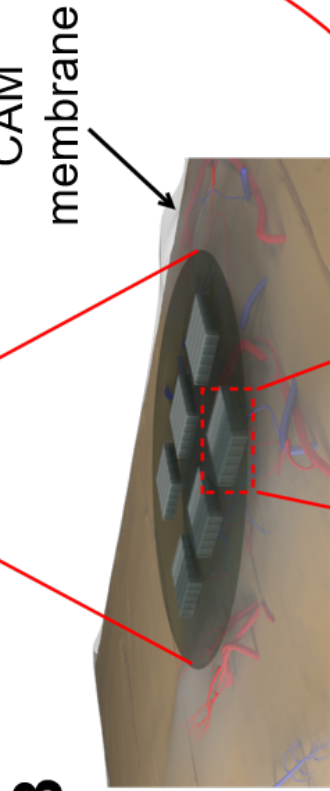
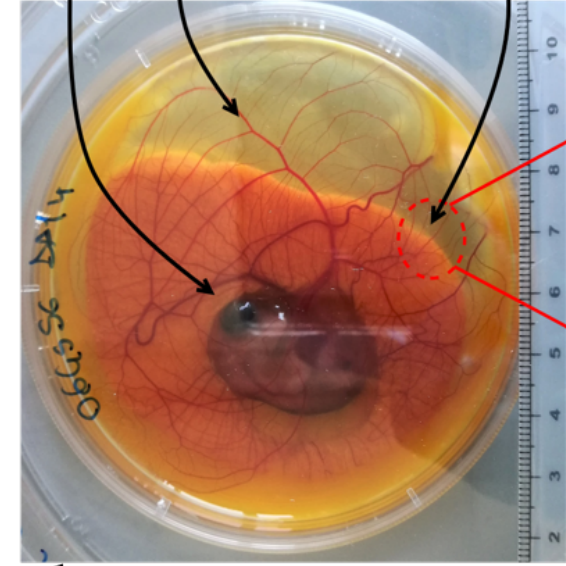
D

Target Nichoid	Function	Medium
Target Control		
SOX2	pluripotency	standard
OCT4	pluripotency	standard
NANOG	pluripotency	standard
NESTIN	neural stemness	standard
NESTIN	neural stemness	neuro
MAP2	neurons	neuro
TH	neurons	neuro
TUJ	neurons	neuro
PPAR-γ	adipocyte	adipo
FABP4	lipid metabolism	adipo

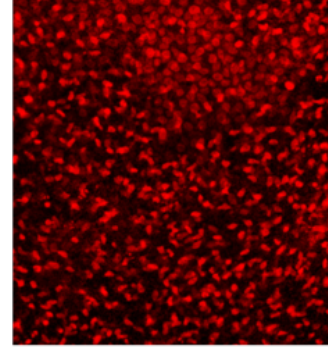
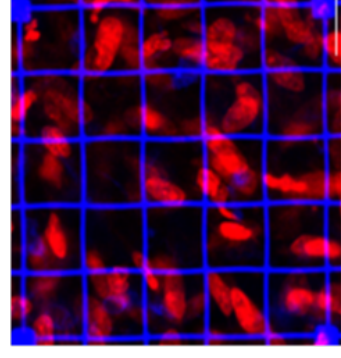
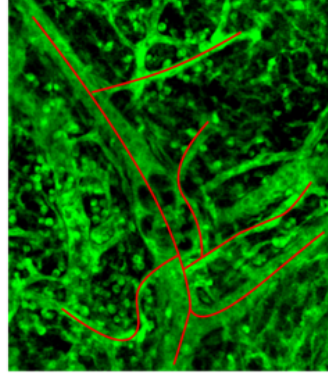
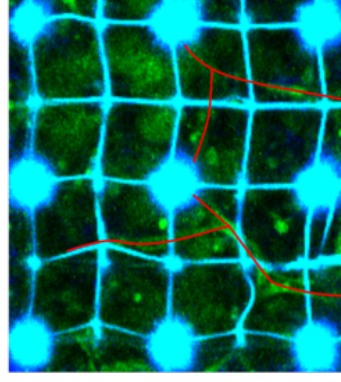
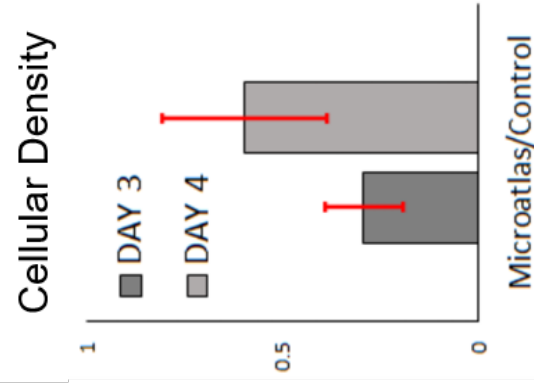
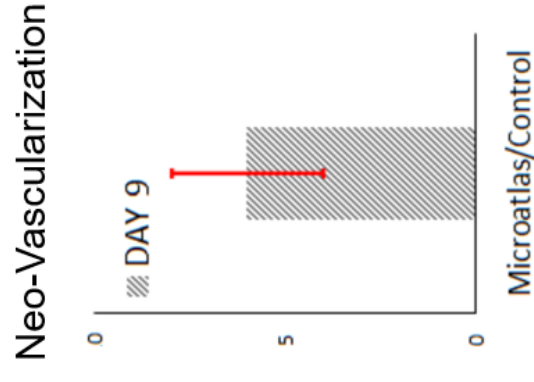
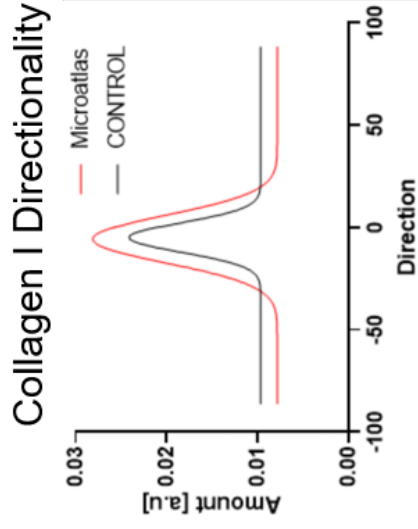
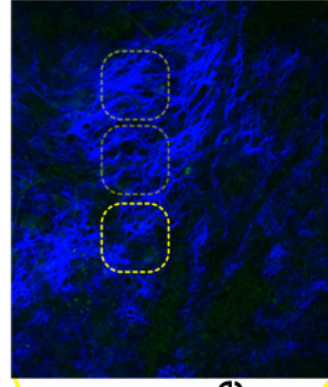
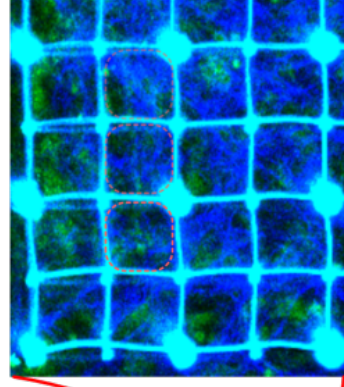
RNA Fold Change

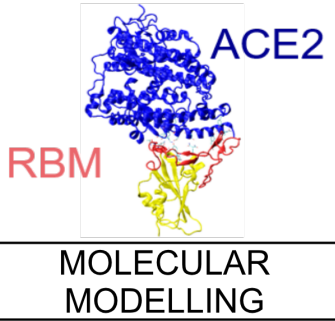
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A**C****D****B****E**

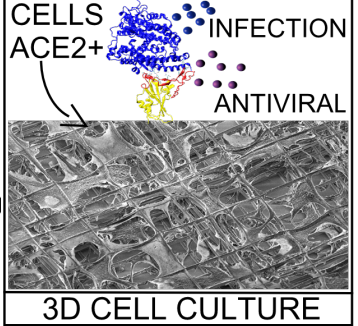
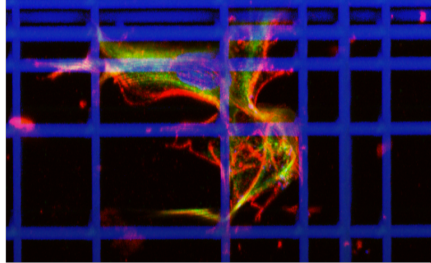


Structure Imaged	Two-photon emission
Cells	Autofluorescence
Cells' Nuclei	Nuclear dye
Neo-Vascularization	Autofluorescence
Collagen Fibres	Second harmonic
Fatty Infiltrates	Third harmonic



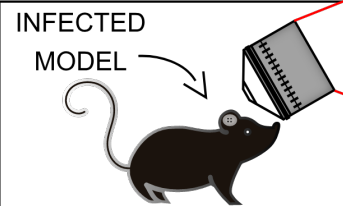


In silico

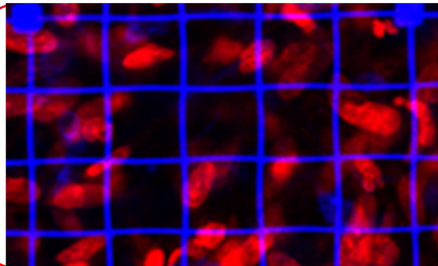


CLINICAL TRIAL

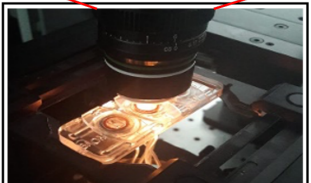
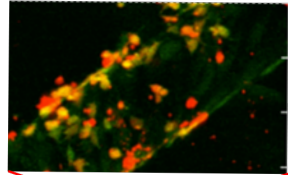
BIOENGINEERING TOOLS



In vivo



In vitro



BIOREACTOR CULTURE















