

Table S1 Detailed information of the used materials in this study

<i>Names of Materials</i>	<i>Number</i>	<i>Company</i>
Sodium alginate(SA)	<i>CAS No. 9005-38-3</i>	Aladdin Shanghai Reagent Co.,Ltd (Shanghai, China)
dithiothreitol (DTT)	<i>CAS No. 3483-12-3</i>	Aladdin Shanghai Reagent Co.,Ltd (Shanghai, China)
3, 3'-Dithiobis (propanoic dihydrazide) (DTP)	<i>CAS No. 50906-77-9</i>	Frontier Scientific Co., Ltd, USA
<i>1-Ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride (EDCI)</i>	<i>CAS No. 25952-53-8</i>	Damas-beta Co., Ltd (Shanghai, China)
<i>2-Morpholinoethanesulphonic acid(MES)</i>	<i>CAS No. 4432-31-9</i>	Aladdin Shanghai Reagent Co.,Ltd (Shanghai, China)
Poly (ethylene glycol) diacrylate (PEGDA) (average Mn 575)	<i>CAS No. 26570-48-9</i>	Sigma-Aldrich Co., Ltd, Shanghai, China
<i>2,2'-Azobis(2-methylpropionitrile) (AIBN)</i>	<i>CAS No. 78-67-1</i>	Aladdin Shanghai Reagent Co.,Ltd (Shanghai, China)
Tetraethylthiuram <u>disulfide</u> (DS)	<i>CAS No. 97-77-8</i>	Aladdin Shanghai Reagent Co.,Ltd (Shanghai, China)
Fluorinert™ FC-40	<i>CAS No. 86508-42-1</i>	3M
1H, 1H, 2H, 2H-perfluoro-1-octanol (PFO)	<i>CAS No. 647-42-7</i>	Bide Pharm Co., Ltd (Shanghai, China)
Novec™ 7500	<i>CAS No. 297730-93-9</i>	3M
Minimum Essential Medium α (MEM α)	<i>12571071</i>	Gibco, USA
fetal bovine serum (FBS)	<i>10099141</i>	Gibco, USA
counting kit-8(CCK8)	<i>HY-K0301</i>	MCE, USA
Live/Dead assay kit	<i>CA1630</i>	Solarbio
Slit3 Elisa kit	<i>SED353M</i>	Cloud-Clone, China
4% paraformaldehyde	<i>BL539A</i>	Biosharp, USA
8-0 suture	<i>R831</i>	Jinhuan, China
sodium heparin	<i>9041-08-01</i>	MACKLIN, China
ethylenediaminetetraacetic acid (EDTA)	<i>6381-92-6</i>	MACKLIN, China
optimum cutting temperature compound (OCT)	<i>4583</i>	TissueTek, USA
Hematoxylin and Eosin dye	<i>PH0512</i>	Phygene, China
Safranin O/Fast Green	<i>RBG1036-200-2</i>	Roles-Bio,
antigen retrieval solution	<i>BL618A</i>	Biosharp, USA
bovine serum albumin (BSA)	<i>9048-46-8</i>	Biofroxx, German
Triton X-100	<i>9002-93-1</i>	Sigma, USA
DAPI	<i>S2110</i>	Solarbio, China
Slit3 Elisa kit	<i>SED353M</i>	Cloud-Clone, China
4% paraformaldehyde	<i>BL539A</i>	Biosharp, USA
8-0 suture	<i>R831</i>	Jinhuan, China
Endomucin antibody	<i>sc-65495</i>	SANTA CRUZ, USA
CD31 antibody	<i>ab28364</i>	Abcam, USA

anti-rat Alexa Fluor 488	<i>4416</i>	Cell signaling, USA
anti-rabbit Alexa Fluor 649	<i>BS10034</i>	Bioworld, USA
Slit3	<i>767804</i>	Biolegend, USA