

Description	SOURCE	IDENTIFIER
Antibodies		
E Cadherin	Abcam	ab231303
Beta Calenin	Abcam	ab6302
CK20	Abcam	ab76126
Sox9	Abcam	ab185966
Eosin Y	Abcam	ab246825
DAPI	Thermo Fisher Scientific, Waltham, MA	62248
Counting Beads	SpheroTech	ACRFP-100-3
Tissue Isolation Reagents		
Collagenase I	Thermo Fisher Scientific	17100-017
Y-27632 (ROCK inhibitor)	Sigma-Aldrich	Y0503
Cell Culture reagents		
L-WRN Conditioned Medium (L-Wnt3a, R-spondin, Noggin)	HDCC Organoid Core, MA	L-WRN CM
Advanced DMEM/F12 (500 mL)	Thermo Fisher Scientific	12634-010
GlutaMAX 100X (100 mL)	Thermo Fisher Scientific	35050-061
HEPES 1M (20 mL)	Thermo Fisher Scientific	15630-106
B27 supplement without Vitamin A (10 mL)	Thermo Fisher Scientific	12587010
N-2 supplement (5 mL)	Thermo Fisher Scientific	17502-048
Nicotinamide	Sigma-Aldrich	N0636
Recombinant murine epidermal growth factor (mEGF)	Peprotech-ThermoFisherScientific	315-09
N-acetyl cysteine	Sigma-Aldrich	A5099
Activin-like kinase (ALK) inhibitor (A83-01)	Tocris	2939
p38 Mitogen-activated kinase (MAPK) inhibitor (SB202190)	Sigma-Aldrich	S7067
Rho-associated protein kinase (ROCK) inhibitor	Sigma-Aldrich	Y0503
human (Leu15)-gastrin I	Sigma-Aldrich	G9145
Primocin 50 mg/mL	InvivoGen	ant-pm-1
Type I collagen, Rat Tail	Corning	354236
TrypLE Express (1X)	ThermoFisher Scientific	12605-010
Cell Recovery Solution (100 mL)	BD-Corning	354253
FBS, Heat-inactivated, United States	Gibco	10082-147
Matrigel matrix growth factor reduced, Phenol Red-free (10 mL)	Corning	356231
Collagenase IV	Gibco	17104019
Dimethyl sulfoxide (DMSO)	Sigma-Aldrich	D2650
ER-1 activation solution	Emulate Inc.	ER-1
ER-2 activation solution	Emulate Inc.	ER-2
sulfo-SANPAH	Thermo Fisher Scientific	A35935
Lymphoprep™ Density Gradient Medium for isolating mononuclear cells	Stemcell Technologies	7811
Cell Tracker Deep Red	Thermo Fisher Scientific	C34565
Cascade Blue hydrazide (0.59 kda)	Invitrogen	C687
Dextran Cascade Blue (3 kda)	Invitrogen	D7132
B-estradiol (E2)	Sigma	E4389
Medroxyprogesterone 17-acetate (MPA)	Sigma	46412-250MG
Prolactin (PRL)	VWR	103681-334
Human Placental Lactogen (hPL/ CSH1)	VWR	103681-334
Human Chorionic Gonadotropin (HCG)	VWR-MP Biomedicals	IC0219859110
CellTracker™ - Deep Red	Thermo Fisher Scientific	C34565
Fibroblast Medium (FM)	Lonza	CC-3132
Hank's balanced salt solution (HBSS) with calcium and magnesium	Corning	21-023-cv
Penicillin-streptomycin	Sigma-Aldrich	P4333-100ML
D-PBS (-/-)	Gibco	14190144
Additional Reagents		
N-ethyl-N-nitrosourea (ENU)	Millipore Sigma	N8509
16% Paraformaldehyde	Electron Microscopy Sciences	50-980-487
TritonX-100	Sigma	X100-5ML
Bovine serum albumin (BSA)	Sigma	A9418-50G
Hoechst	Sigma-Aldrich	94403-1ML
HEPES (25 mM)	Thermo Fisher Scientific	15630-080
EDTA (1mM)	Thermo Fisher Scientific	15575-020
Sodium azide	VWR	BDH7465-2
Cell Culture Supplies		
75 cm² flask	Falcon	3531135
Emulate Basic Research Kit (Chip-S1)	Emulate	Chip-S1
105 µm Nylon mesh	Component Supply Co	U-CMN-105-A
Others		
Procartaplex cytokine and chemokine panel	Thermo Fisher Scientific	Custom
Micro DNA isolation kit (QIAamp DNA Micro Kit (50 isolations)	Qiagen	56304
RNeasy Plus Micro Kit (50 isolations)	Qiagen	74034
RNeasy Mini Kit (250 isolations)	Qiagen	74106
Agilent Nano Kit	Agilent Technologies	5067-1511
AFM cantilever	Bruker	SAA-SPH-5UM
Bioinformatics & Software		
IMARIS	Biplane	
Fiji	(Schindelin et al., 2012)	https://fiji.sc/
Pluto	Pluto Biosciences	https://pluto.bio/
R language and environment for statistical computing	GNU project	https://www.r-project.org/
FlowJo v10	FlowJo, LLC	
GraphPad Prism 8	GraphPad Software, SanDiego, CA	
Burrows-Wheeler Alignment Tool v0.7.17		
Genome Analysis Toolkit (GATK) v4.4.0		
Picard v2.27.5		
ACEV3.16		
QDNAseq v1.35.0 R package		
Transcriptomic Analysis		
Illumina HiSeq polyA selection 150 bp paired-end reads	Azenta, Burlington, MA	
Trimmmomatic v.0.36 to remove adapter sequences/poor quality		
STAR aligner v.2.5.2b mapping		
Subread package v.1.5.2 for unique gene counts		
edgeR v4.2.1 for CPM normalized gene expression		
DESeq2 R package differential expression analysis	Pluto	https://pluto.bio
fgsea R package and fgseaMultilevel() function for GSEA	Pluto	https://pluto.bio
msigdb R package for curating ranked genes based on MSigDB	Pluto	https://pluto.bio
g:Profiler for functional enrichment analysis, plotted with R package ggplot2 v3.5.1		
Whole Genome Sequencing		
NEBNext Ultra II FS DNA Library Prep Kit	New England Biolabs, Ipswich, MA	
Clean NGS magnetic beads	GC Biotech	
NextSeq 500 platform	Illumina	
Equipment		
Cryostat	Leica	
LSM 980	Zeiss	
SP5 MP Microscope	Leica	
JPK Nanowizard 4a	Bruker	
Axio Observer Z1	Zeiss	
Cytation 3	BioTek	
Revolve 3	ECHO	
Vibratome (VT1000)	Leica	
Zeiss TIRF/LSM 720 confocal	Zeiss	
Luminex 100/200 Flexmap3D instrument + Luminex Xponent software	Luminex	
LSRFortessa Flow Cytometer	BD BioSciences	
Agilent 2100 Bioanalyzer	Agilent Technologies	
Diagenode Bioruptor	Invitrogen	
TapeStation with D1000HS tapes	Agilent Technologies, Santa Clara, CA	