

## SUPPLEMENTARY TABLES

**Supplementary Table 1. Information on the media and supplied cytokines used for organoid culturing.**

Organoid name	Culture medium catalog No. and company	Additional cytokines
SI Organoid	#355357, Corning	EGF, Noggin, R-Spondin 1, Wnt-3a
Cecum Organoid	#355357, Corning	EGF, Noggin, R-Spondin 1, Wnt-3a
Colon Organoid	#355357, Corning	EGF, Noggin, R-Spondin 1, Wnt-3a
Stomach Organoid	#CM-H048, Pricella	EGF, Noggin, R-Spondin 1, FGF-10, BMP-4
Liver Organoid	#355056, Corning	BMP-4, EGF, FGF-basic, FGF-10, HGF, Noggin, Wnt-3a
Pancreas Organoid	#CM-H020, Pricella	EGF, Noggin, R-Spondin 1, Wnt-3a, FGF-10

**Supplementary Table 2. Sequences of primers used in this study.**

Gene name	Forward (5'–3')	Reverse (5'–3')
<i>Lgr5</i>	CTCCCAGGTCTGGTGTGTTG	GAGGTCTAGGTAGGAGGTGAAG
<i>Alpi</i>	CGACCGGGCGATTTCAGAGAG	GTAATACGACTCACTATAGGGTGGTGTACGGCTCAA
<i>LYZ1</i>	GGGAACCTGTGACCTGTCTT	GCCTCATGACACTGGGAACA
<i>Delc</i>	CAGCCGCAATTCAATCAGTA	GCAACTGTGAGTGGCTCTGA
<i>CHGA</i>	TGTATCGTCGAGGTCATCTCTGA	CGAGGTCTTGGAGCTCTTTCA
<i>IFN<math>\gamma</math>R1</i>	AGTGCTTAGCCTGGTATTCATCTG	GGCTGGTATGACGTGATGAGTG
<i>IFN<math>\gamma</math>R2</i>	CAGGAGCCTGTTTCTTCCTG	TTCCGGAACGAGATAATGG
<i>GAPDH</i>	TGCACCACCAACTGCTTAGC	GGCATGGACTGTGGTCATGAG

**Supplementary Table 3. Information on cytokines and other reagents used in this study.**

Reagent name	Catalog no.	Company
BSA	#HY-D0842	MCE
IFN $\gamma$	#abs04123	Abisin
IFN $\alpha$	#abs06261	Abisin
IFN- $\beta$	#abs000916	Abisin
IFN $\lambda$ 2	#abs01022	Abisin
IL-1 $\alpha$	#abs00801	Abisin
IL-1 $\beta$	#abs00802	Abisin
IL-2	#abs00804	Abisin
IL-3	#abs00805	Abisin
IL-4	#abs00806	Abisin
IL-5	#abs00807	Abisin
IL-6	#abs00808	Abisin
IL-7	#abs00809	Abisin
IL-9	#abs00812	Abisin
IL-10	#abs00813	Abisin
IL-11	#abs00814	Abisin
IL-12	#abs00815	Abisin
IL-13	#abs00816	Abisin
IL-15	#abs00818	Abisin
IL-17A	#abs04047	Abisin
IL-17F	#abs00823	Abisin
IL-21	#abs05146	Abisin

IL-22	#abs00827	Abisin
IL-25	#abs00984	Abisin
IL-31	#abs00828	Abisin
IL-33	#abs00829	Abisin
Amphiregulin	#abs00904	Abisin
GM-CSF	#abs01044	Abisin
IFN $\beta$	#abs00916	Abisin
TSLP	#abs00844	Abisin

**Supplementary Table 4. Information on inhibitors used in this study.**

Inhibitor name	Pathway inhibited	Catalog no.	Company
DKK1	Wnt pathway	#P02228	Solarbio
IWP-2	Notch pathway	#HY-13912	MedChemExpress
Y27632	Rho-kinase, anoikis	#07171	StemCell™ Technologies
z-VAD-FMK	Apoptosis	#HY-HY-16658B	MedChemExpress
z-DEVD-FMK	Apoptosis	#HY-12466	MedChemExpress
GSK872	Necrosis	#HY-101872	MedChemExpress
YVDG	Cell cycle	#HY-16990	MedChemExpress

**Supplementary Table 5. Information on antibodies used in this study.**

Antibody name	Catalog no.	Company	Dilution ratio
GPX4	#67763-1-Ig	Proteintech	1: 1000
APC	19782-1-AP	Proteintech	1:1000
<i>p53</i>	# 2524S	Cell Signaling Technology	1:1000
KRAS	12063-1-AP	Proteintech	1:1000
$\beta$ -actin	#PTM-5018	PTM-BIO	1: 2000
HRP labeled Goat anti Rabbit IgG	#A0208	Beyotime	1: 5000
HRP labeled Goat anti Mouse IgG	#A0216	Beyotime	1: 5000

**Supplementary Table 6. Current status on clinical trials using IFN $\gamma$  for cancer treatment.**

NCT no.	Status	Results available	Cancer type	Phase
NCT03112590	Completed	Yes	Breast Cancer	Phase 1 Phase 2
NCT02948426	Terminated	Yes	Ovarian Cancer	Phase 1
NCT00004032	Completed	No	Ovarian Cancer	Phase 1
NCT02614456	Completed	No	Advanced Solid Tumors	Phase 1
NCT00002637	Completed	No	Prostate Cancer	Phase 1 Phase 2
NCT04540224	Completed	No	Breast Cancer	Not Applicable
NCT00002796	Terminated	No	Colon Cancer	Phase 1 Phase 2
NCT00786643	Completed	Yes	Colorectal Cancer	Phase 2
NCT00004016	Completed	No	Melanoma	Phase 1
NCT00501644	Completed	Yes	Ovarian Cancer	Phase 2
NCT00047632	Terminated	No	Ovarian Cancer	Phase 3
NCT02016833	Completed	No	Ovarian Cancer	Not Applicable
NCT03782428	Completed	No	Colorectal Cancer	Not Applicable
NCT00001296	Completed	No	Melanoma	Phase 3

NCT01461148	Completed	No	Colorectal Cancer	Phase 1 Phase 2
NCT01881867	Completed	Yes	Prostate Cancer	Phase 2
NCT00266110	Completed	Yes	Breast Cancer	Phase 2
NCT03005860	Unknown	No	Breast Cancer	Not Applicable
NCT04438564	Recruiting	No	Breast Cancer, Colorectal Cancer	Not Applicable
NCT00008203	Completed	No	Breast Cancer	Phase 3
NCT02197169	Completed	No	Glioblastoma, Gliosarcoma	Phase 1
NCT00059878	Completed	No	Solid Tumor	Phase 2
NCT00616720	Completed	No	Multiple Myeloma	Phase 2
NCT00002505	Completed	No	Adult Solid Tumor	Phase 2
NCT00428272	Terminated	No	Osteosarcoma	Phase 1
NCT00844506	Completed	No	Ovarian Cancer	Phase 2
NCT01957709	Terminated	Yes	Liposarcoma	Phase 1
NCT03331367	Completed	No	Prostate Cancer	Not Applicable
NCT00656123	Completed	No	Colorectal Cancer	Phase 1
NCT00821964	Completed	Yes	Breast Cancer	Phase 2
NCT04864379	Recruiting	No	Advanced Solid Tumor	Phase 1
NCT04328714	Recruiting	No	Acute Leukemia	Phase 1