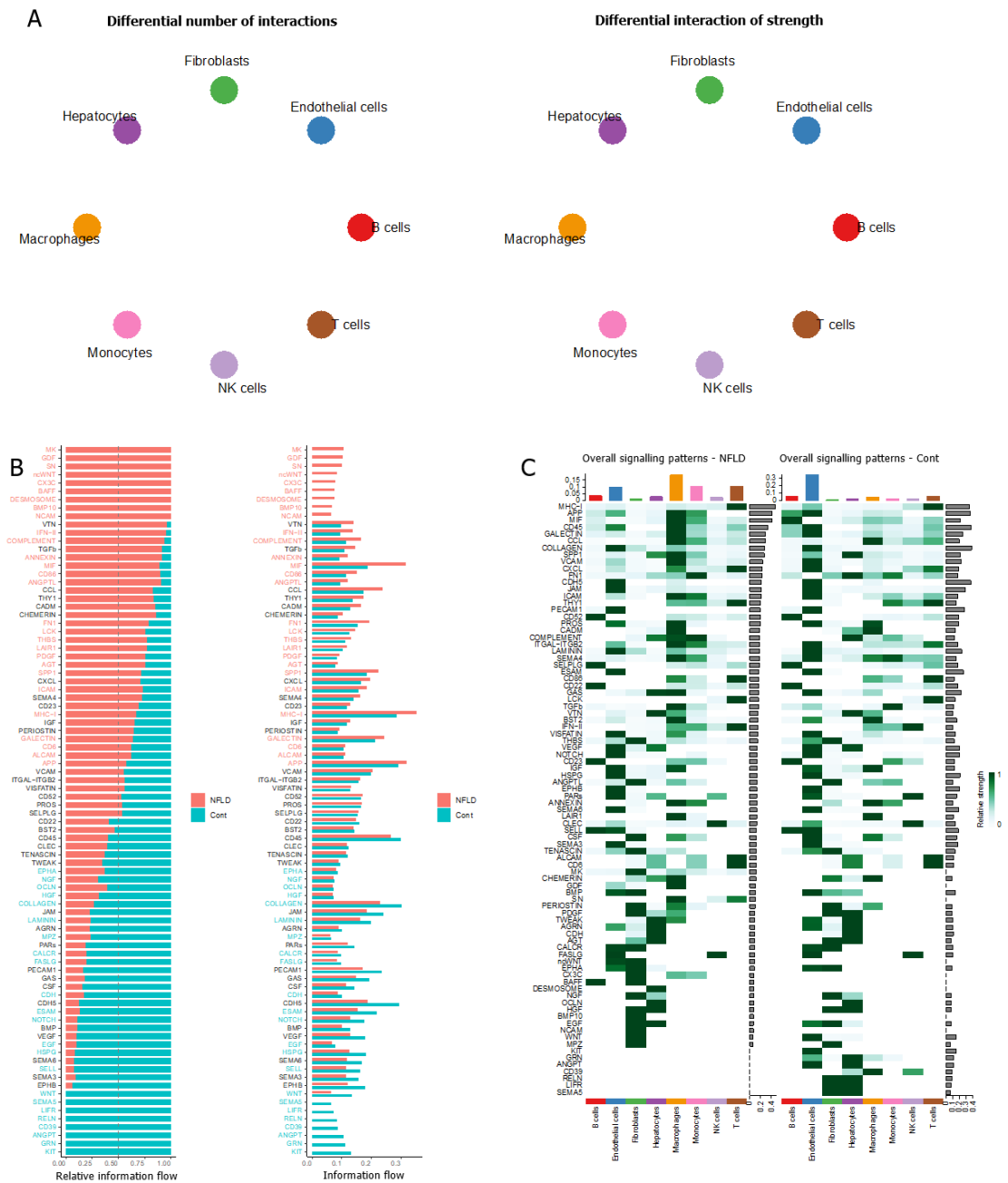
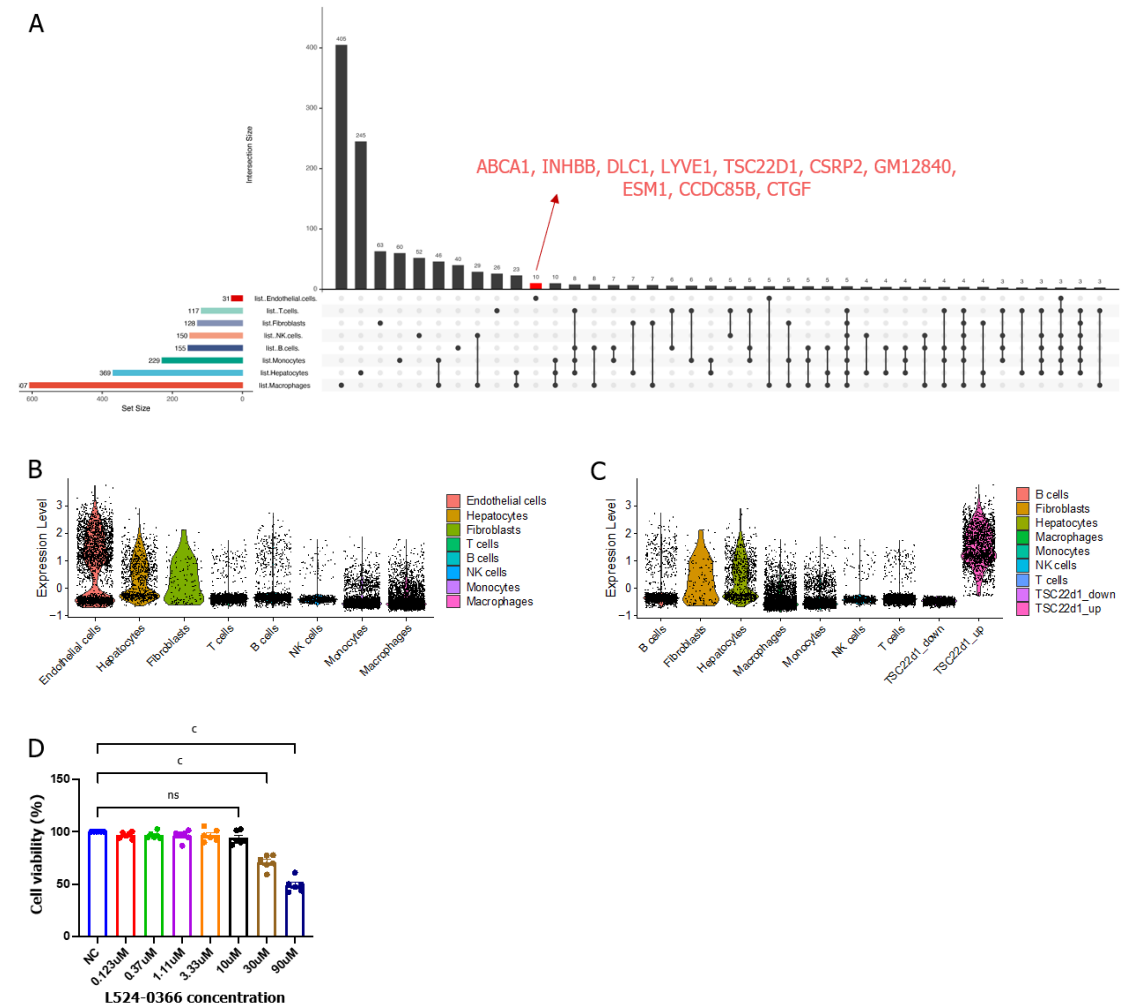




Supplementary Figure 1 Analysis of differential cell signaling pathways in liver tissue between two groups of mice. A: Network plot showing the differential number of interactions among various cell types. B: The overall ranking of information flow in each signaling pathway. C: Heatmap displaying the intensity of information flow across different cell types.



Supplementary Figure 2 Analysis of signaling pathways in hepatic sinusoidal endothelial cells with varying expression levels of *TSC22D1*. A: Upset plot of differentially expressed genes across various cell types. B: Violin plot of *TSC22D1* expression levels in hepatic sinusoidal endothelial cells before distinguishing subtypes. C: Violin plot of *TSC22D1* expression levels in hepatic sinusoidal endothelial cells after distinguishing subtypes. D: CCK8 assay analysis

Supplementary Table 1 Antibodies used in this study

Name	Supplier	catalog number	Purpose
CD31	NOVUS	NB100-2284	IF
CD34	SANTA	SC-74499	ICC, IF
Laminin	Bioss	Bms-33040m	ICC, IF
Ang2	Bioss	Bs-0537R	ICC, IF
a-SMA	SANTA	SC-53142	ICC, IF
N-Cadherin	Proteintech	22018-1-AP	ICC, IF
E-cadherin	Bioss	bs-1519R	ICC, IF
TSC22D1	Proteintech	10214-1-AP	IF, WB
TWEAK	Invitrogen	PA5-47065	IF, WB
Fn14	ABclonal	A13093	IF, WB
TWEAK Kit	Jianglai	JL29598	Elisa
IL-10 Kit	MEIMIAN	MM-0066H1	Elisa
IL-6 Kit	MEIMIAN	MM-0049H1	Elisa
TNF- α Kit	MEIMIAN	MM-0122H1	Elisa
TGF- β Kit	MEIMIAN	MM-63141H1	Elisa
CD14	BioLegend	325604	FC
CD11b	BioLegend	562399	FC
CD86	BioLegend	374208	FC
CD206	BioLegend	321106	FC
CD80	BioLegend	305206	FC

Note: IF, Immunofluorescence; ICC, Immunohistochemical; WB, Western blot; FC, flow cytometry.

Supplementary Table 2 Primers used for RT-PCR

Gene	Forward (5'-3')	Reverse (5'-3')
GAPD	CGGAGTCAACGGATTTGGTC	AGCCTTCTCCATGGTGGTGA
H	GTAT	AGAC

MCP-1	ATGAAAGTCTCTGCCGCCCT	GGACACTTGCTGCTGGTGAT
	TC	TC
iNOS	GAGCATCACCCCCGTGTTTC	GACGCCATTGTCTTGCGCAT
	A	C
Arg-1	GTCTGTGGGAAAAGCAAGC	TGTGAGCATCCACCCAGAT
	GAG	GAC
CD206	GCTACTGAACCCCCACAAC	TGGCTCAACCCGATATGAC
	TGC	AGA

Supplementary Table 3 The sequences of shRNA for TSC22D1

sh-RNA	Sequences
sh-TSC22D1-1	GTGCATGGTAATGCTAATATAATTCAAGAGATTATATTAGC ATTACCATGCAC
sh-TSC22D1-2	GGCAGTTTGGTTCAAAGTGTTATCTCTTGAATAACACTTTG AACCAAAGTACC
sh-TSC22D1-3	GAGCAGATCAAAGAACTAATATCTCTTGAATATTAGTTCTT TGATCTGCTC