

Supplementary Table 1

Cell Type	Species	Markers	Reference
Acinar	Mouse	<i>Zg16, Try4, Cela1, Cela2a, Cela3b, Cpb1, Cpa2, Pnlip, Pla2g1b, Amy2a5, Spink1, Cuzd1, Reg3a, Reg3d</i>	(10, 11, 21); DEG analysis
	Human	<i>CPA1, CELA2B, RBPJL, CUZD1, PDIA2, CTRL, AQP8, REG3A, REG3G</i>	(15, 21); DEG analysis
Ductal	Mouse	<i>Hnf1b, Mmp7, Lcn2, Hhex, Plet1, Aldoc</i>	(9); DEG analysis
	Human	<i>CA2, CFTR, BICCI1, GLIS3, SOX9, HNF1B, ONECUT1, SCTR</i>	(21, 24); DEGANalysis
ADM	Mouse	<i>Acinar(Zg16/CPA1), Ductal(Krt19/CFTR), metaplasia(FOXQ1, ONECUT2)</i>	
Nes+ Progenitor	Mouse	<i>Nes, Sox11, Hmga2, Wnt7b, Jag1, Vegfc, Pdgfb, Lama3, Inhba, Ctl2a</i>	(11); DEG analysis
Tuft	Mouse	<i>Pou2f3, Dclk1, Trpm5</i>	(11)
Neuroendocrine	Mouse	<i>Chga, Chgb, Neurod1, Syp, Ppy, Gcg, Ins1, Ins2, Sst</i>	(11)
	Human	<i>CHGA, CHGB, NEUROD1, SYP, PPY, GCGINS, SST</i>	(11)
Gastric	Mouse	<i>Tff1, Tff2, Muc4, Pigr, Pgc, Liph, Cfr, Aqp5, Gsta1, Gsta4, Sult1c2, Agr2, Spink4, Lgals4</i>	(11); DEG analysis
	Human	<i>MUC1, MUC5AC, TFF2, TFF1, AGR2, ANXA10, ZG16B, LIPH</i>	(11); DEG analysis
metaplasia	Both	<i>FOXQ1, ONECUT2</i>	(10)
PDAC-specific proliferating cell	Both	<i>MKI67, CDK1, FOXM1, MYBL2, CCNB1, CCNB2, PLK1, AURKB, AURKA, CDC20, BUB1, TOP2A, CKS1B, MCM2, MCM5, RRM2, TYMS, CDC6, E2F8</i>	(25-27)
PDAC	Mouse	<i>Hmga1, Msln, Pgk1, Cldn18</i>	DEG analysis
Fibroblast	Mouse	<i>Acta2, Col1a1, Lum, Pdgfrb, Col6a1</i>	(19); DEG analysis
	Human	<i>DCN, COL1A1, COL1A2, COL3A1, LUM, SFRP2</i>	(12, 19); DEG analysis
Myeloid	Mouse	<i>Nlrp3, Sl00a8, Trem1</i>	DEG analysis
	Human	<i>CD68, CD14, ITGAM, FCGR3A, FCGR3B, APOE, C1QA, MARCO, LYZ</i>	(19); DEG analysis
Smooth muscle	Human	<i>MYH11, CNN1</i>	DEG analysis
T/NK	Mouse	<i>Cd247, Cd3g, Cd3e, Nkg7, Gimap4</i>	DEG analysis
	Human	<i>CD3E, CD2, CD3D, NKG7, CD4, CD8A, PRF1, IFNG, GZMB, FOXP3, TIGIT</i>	(19); DEG analysis
Mast	Human	<i>KIT, TPSAB1, CPA3</i>	(19); DEG analysis
Endothelial	Human	<i>VWF, CDH5</i>	(19); DEG analysis
B/Plasma	Mouse	<i>Ighm, Iglc1, Iglc3, Mzb1, Igkc</i>	DEG analysis
	Human	<i>CD79A, CD79B, MS4A1, BANK1, POU2F2, VPREB3, JCHAIN</i>	(19); DEG analysis
Macrophage	Mouse	<i>C1qb, C1qc, C1qa, Cd68, Lyz2</i>	DEG analysis

*Markers for epithelial clusters (Acinar, Ductal, Gastric-like, Tuft-like, Neuroendocrine, and Nes+ progenitor) were primarily selected based on Burdziak et al. (11) and Marstrand-Daucé et al. (9), and supplemented with additional markers identified by differential expression analysis in the present dataset. PanIN markers (Foxq1/FOXQ1 and OneCut2/ONECUT2) were selected based on Schlesinger et al. (10). Markers for stromal and immune clusters (Fibroblast, Endothelial, Myeloid, T/NK, B/Plasma, Macrophage, Mast, and Smooth muscle) were identified by differential expression analysis in the present study and further supported by canonical cell type markers from prior literature. For all clusters, the final marker sets represent a combination of literature-derived canonical markers and markers identified through differential expression analysis; individual marker references are provided where applicable.

*Markers for the PDAC-specific proliferating cluster were identified by differential expression analysis, with Mki67 (MKI67) as the primary marker. Additional markers were selected based on their known regulation by the DREAM complex and FOXM1, which function as downstream effectors of oncogenic KRAS signaling in pancreatic cancer. Specifically, genes repressed by the DREAM complex and activated by FOXM1-MuvB were prioritized as markers of this proliferating population

*For cell types present in both mouse and human datasets (indicated as 'Both'), human gene symbols are listed. Corresponding mouse orthologs follow standard mouse gene nomenclature (first letter capitalized, remainder lowercase; e.g., human FOXQ1 corresponds to mouse Foxq1).