Table S1. Genes identified by microarray analysis whose expression was upregulated in response to fluid flow in a *Pkd1* dependent manner

Metabolism

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
CKb	creatine kinase, brain	2.71	5.47	1.03	1
Gda	guanine deaminase	60.01	108.9	1	1.26
Inpp5a	inositol polyphosphate-5-phosphatase A	1.03	1.65	1.24	1
Nudt6	nudix (nucleoside diphosphate linked moiety X)-type motif 6	3.41	10.54	1.71	1
Obfc1	oligonucleotide/oligosaccharide-binding fold containing 1	1.43	2.27	1	1.06
Tiparp	TCDD-inducible poly(ADP-ribose) polymerase	1.16	1.81	1	1.11
Upp1	uridine phosphorylase 1	1	2.05	2.9	2.57
Acsbg1	acyl-CoA synthetase bubblegum family member 1	14.44	40.41	1	1.26
Ptgs1	prostaglandin-endoperoxide synthase 1	6.12	12.02	1.19	1
Mrpl33	mitochondrial ribosomal protein L33	1.01	1.9	1	1.26
Txnip	thioredoxin interacting protein	1	1.94	1.22	1.4
HK2	hexokinase 2	1	2.06	1.5	1.19
Ptgs1	prostaglandin-endoperoxide synthase 1	6.12	12.02	1.19	1
Fabp4	fatty acid binding protein 4, adipocyte	4.02	22.5	1.1	1
Mgat5	mannoside acetylglucosaminyltransferase 5	1	1.56	1.1	1.27
Acsl4	acyl-CoA synthetase long-chain family member 4	1	1.69	1.81	2.1
St3gal1	ST3 beta-galactoside alpha-2,3-sialyltransferase 1	1.71	2.76	1	1.02

Cytoskeleton/Transport

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
MIM	missing in metastasis protein	58.11	95.56	1.66	1
Baiap2l1	BAI1-associated protein 2-like 1	1.13	1.96	1.14	1
Nup54	nucleoporin 54	1.11	2.29	1.19	1
Sept9	septin 9	1.69	2.8	1	1.06
Fmnl2	formin-like 2	1	1.84	2.05	2.63
Grasp	GRP1-associated scaffold protein	1.24	2.32	1	1.15
Mical1	microtubule-associated monoxygenase, calponin and LIM domain-containing 1	1	1.87	1.78	2.53
Fgd6	FYVE, RhoGEF and PH domain-containing 6	1.24	2.32	1	1.14
Psen2	presenilin 2	1.22	2.02	1.16	1
Arhgap6	Rho GTPase activating protein 6	1.8	5.71	1.23	1

Potential Wnt Signaling

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
LOC2269	similar to ALY	2.59	24.31	2.26	1
Tcf23	transcription factor 23	4.98	13.12	1.07	1

Apoptosis

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
Bmf	Bcl2 modifying factor	1.16	3.84	1	1.19

Chromatin/Transcription/RNA-binding

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
Fli1	Friend leukemia integration 1	113.08	174.44	1	1.36
Nr4a1	nuclear receptor subfamily 4, group A, member 1	1	2.11	1.33	1.85
Prrx1	paired related homeobox 1	23.58	59.94	1.12	1
Nab1	Ngfi-A binding protein 1	1	1.54	1.33	1.57
Arid5b	Modulator recognition factor 2(Mrf2)	1	1.68	1.05	1.27
Ddef2	development and differentiation enhancing factor 2	4.11	7.14	1.1	1
MEF2C	myocyte enhancer factor 2C	11.57	24.43	1.69	1
GATA6	GATA binding protein 6	8.74	13.15	1	1.02
Nova1	neuro-oncological ventral antigen 1	17.42	36.56	1.89	1
HDAC5	histone deacetylase 5	1.87	3.38	1	1.32
Mllt10	Myeloid/lymphoid or mixed lineage-leukemia translocation to 10 homolog (*Drosophila*) (Mllt10)	1.26	2.05	1	1.07
LOC5462	similar to transcription elongation factor B	1.65	7.09	1	1

	polypeptide 3 binding protein 1				
H1f0	H1 histone family, member 0	1	1.88	1.9	2.28
H1fx	H1 histone family, member X	1	1.54	1.58	1.54
Smarcb1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily b, member 1, mRNA	1.24	2.61	1	1.08

Growth & Differentiation

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
Rasa3	RAS p21 protein activator 3	1.38	2.18	1	1.01
Slfn2	schlafen 2	2.81	6.65	1	1.27
Cul3	Cullin 3	1	1.82	1.75	2.06
Trib2	tribbles homolog 2 (Drosophila)	1	2.9	2.15	2.03
Cxcl1	chemokine (C-X-C motif) ligand 1	1	1.83	2.97	4.24
Dusp6	dual specificity phosphatase 6	2.05	3.7	1.08	1
Fbxo2	F-box only protein 2	2	3.05	1	1.18
Igfbp4	insulin-like growth factor binding protein 4	82.19	163.87	2.17	1
Prkg2	Protein kinase, cGMP-dependent, type II (Prkg2)	3.41	8.35	1	1.5
Adcy7	adenylate cyclase 7	5.94	12.38	1	1.37
Ndrg2	N-myc downstream regulated gene 2	8.9	28.86	1.62	1
Mmd	monocyte to macrophage differentiation-associated	1.91	4.69	1	1.2
Amhr2	anti-Mullerian hormone type 2 receptor	1	3.26	1.35	1.31
Spry2	sprouty homolog 2 (*Drosophila*)	1.96	3.43	1	1.07

Ion Channels

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
Slc4a4	solute carrier family 4 (anion exchanger), member 4	4.36	8.43	1.35	1
Kcnh2	potassium voltage-gated channel, subfamily H, member 2	1	2.19	1.13	1.32

TGF-beta Signaling

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
Ltbp1	latent transforming growth factor beta binding protein 1	2.28	4.29	1.09	1
Nrn1	neuritin 1	9.09	17.11	1.82	1
Bambi	BMP and activin membrane-bound inhibitor, homolog (Xenopus laevis)	7.39	15.02	1.74	1
Htra3	HtrA serine peptidase 3	8.16	13.46	1	1.22
Chst11	carbohydrate sulfotransferase 11	4.88	8.21	1.09	1

G-protein Signaling

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
Rgs3	regulator of G-protein signaling 3	1.14	2.72	1.53	1

Cell-Cell or Cell-Matrix Interaction

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
Clec1a	C-type lectin domain family 1, member a	8.28	27.41	2.92	1
Itga7	integrin alpha 7	15.68	37.99	1.65	1
Mgp	matrix Gla protein	1	9.91	1.56	1.27
Vcam1	vascular cell adhesion molecule 1	15.26	28.99	1.32	1
Mmp13	matrix metallopeptidase 13	12.48	34.27	1	1.47
Emp2	epithelial membrane protein 2	1	2.21	1.17	1.25
Itga10	integrin, alpha 10 / similar to integrin, alpha 10 precursor	2.42	5.47	1.09	1
Tm4sf1	transmembrane 4 superfamily member 1	10.31	17.21	1	1.46
Itgb2	integrin beta 2	13.28	29.11	1.39	1
Tspan32	tetraspanin 32	6.33	12.35	1	1.43

Unknown/others

Gene symbol	Gene title	$Pkd1^{+/+}$	$Pkd1^{+/+}$ F	$Pkd1^{-/-}$	$Pkd1^{-/-}$ F
Cmklr1	RIKEN cDNA 8430438D04 gene	12.4	37.11	1	1.44
8430438D	RIKEN cDNA 8430438D04 gene	5.78	17.9	1	1.32
D630035	RIKEN cDNA D630035O19 gene	3.79	7.3	1	1.33
Spint1	serine protease inhibitor, Kunitz type 1	8.59	19.79	1.43	1
Abca13	ATP-binding cassette, sub-family A (ABC1), member 13	17.85	137.03	1.52	1
D14Ertd6	troponin T2, cardiac	7.31	21.19	1	1.04
2610027C	RIKEN cDNA 2610027C15 gene	1	2.12	1.28	1.4
Antxr2	anthrax toxin receptor 2	1	1.77	1.51	1.41
AI447904	expressed sequence AI447904	1.64	7.03	2.09	1
1810023F	RIKEN cDNA 1810023F06 gene	7.53	16.74	1.12	1
C030045D	RIKEN cDNA C030045D06 gene	35.4	61.44	1.16	1
Ifi203	interferon activated gene 203 / similar to interferon-inducible protein 203	16.61	39.09	1	1.22
LOC5455	similar to RIKEN cDNA B230218L05 gene	1.82	3.62	1.03	1
C3ar1	complement component 3a receptor 1	5.28	9.75	1.09	1
Ly6e	lymphocyte antigen 6 complex, locus E	1	2.35	1.72	2.23
BC037704	cDNA sequence BC037704	2.96	6.74	1	1.23
18100110	RIKEN cDNA 1810011O10 gene	1.21	5.11	1.1	1
BCO Loc25600	tribbles homolog 2 (Drosophila)	47.47	79.02	1.6	1
1110019c	RIKEN cDNA 1110019C06 gene	6.42	33.35	1	1.38
D8Ertd82	DNA segment, Chr 8, ERATO Doi 82, expressed	3.24	5.44	1	1.12
Au020206	expressed sequence AU020206	2.02	3.06	1.06	1
Raet1a	retinoic acid early transcript 1, alpha	2.59	3.9	1.02	1
Ifnz	interferon zeta	3.25	6.45	1	1.42
Ifi27	interferon, alpha-inducible protein 27	120.77	258.26	1.07	1
BC022765	cDNA sequence BC022765	2.65	4.17	1.05	1
Isg20	interferon-stimulated protein	2.3	3.67	1	1.17
C630004H	RIKEN cDNA C630004H02 gene	3.71	5.73	1	1.17
Glcci1	Glucocorticoid induced transcript 1 (Glcci1), transcript variant 1, mRNA	1.33	2.57	1	1.13
Scyl1bp1	SCY1-like 1 binding protein 1	1.02	1.57	1	1.27
SepW1	selenoprotein W, muscle 1	1.02	1.56	1	1.3
4930539P	RIKEN cDNA 4930539P14 gene	1	1.64	1.65	1.26
MGI:1930	brain protein 17	3.81	5.97	1	1.08
GM253	CD300 antigen like family member B (Cd300lb), mRNA	1.31	5.02	1.65	1
Tcra	T-cell receptor alpha chain / RIKEN cDNA A430107P09 gene	3.2	5.04	1.4	1
Spp1	secreted phosphoprotein 1	1	4.94	3.47	4.35
Hmgb2	High mobility group box 2, mRNA (cDNA clone MGC:6061 IMAGE:3489780)	1	1.64	1.93	2.54
290034	RIKEN cDNA 2900034E22 gene	1	1.53	1.12	1.47
LOC433777	similar to Hypothetical protein DJ1198H6.2 /similar to Hypothetical protein DJ1198H6.2 / similar to Hypothetical	20.83	127.4	1.68	1
2610203C20	RIKEN cDNA 2610203C20 gene	1.18	2.41	1	1.33
AI467606	expressed sequence AI467606	1.85	5.41	1	1.21
C030034I22	RIKEN cDNA C030034I22 gene	2.4	4.14	1	1.44
H2-T23	histocompatibility 2, T region locus 23	3.76	6.4	1	1.45

Shown are relative expression levels in $Pkd1^{+/+}$ MEK cells or $Pkd1^{-/-}$ MEK cells with or without flow (F) stimulation.