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Supplementary Table 1. Summary of "Inflammatory Cytokine and Receptors" array

Target	*HPV16 $^{tg/+}$* vs. Wildtype	*HPV16 $^{tg/+}$;Krt17 $^{-/-}$* vs. *HPV16 ^{tg}*	
Cxcl11	2.29	-2.93	HPV16^{tg}-induced, Krt17-dependent
Ccr8	1.97	-2.58	
Il13	2.50	-2.48	
Ccl4	18.25	-2.18	
Ccl22	2.26	-2.12	
Il8rb	5.52	-1.99	
Ccl3	9.55	-1.80	
Xcr1	2.64	-1.79	
Ccr2	2.55	-1.73	
Ccl1	3.71	-1.72	
Ccr7	5.36	-1.70	
Il2rg	1.67	-1.66	
Ccr5	6.88	-1.64	
Ccl5	4.98	-1.56	
Ifng	4.93	-1.39	
Ccr1	9.46	-1.37	
Ccl8	21.63	-1.31	
Cxcl5	91.43	-1.27	
Tnf	1.61	-1.21	
Il5ra	4.39	-1.19	
Itgam	1.96	-1.12	
Il10	5.95	-1.12	

Target	*HPV16 $^{tg/+}$* vs. Wildtype	*HPV16 $^{tg/+}$;Krt17 $^{-/-}$* vs. *HPV16 ^{tg}*	
Cxcl10	250.64	4.31	HPV16^{tg}-induced, Krt17-independent
Il1b	90.08	0.15	
Ccl20	37.46	0.34	
Cxcl1	32.49	0.13	
Il1f6	28.14	0.31	
Cxcl9	27.57	1.80	
Cxcl13	14.17	1.51	
Ccl17	13.26	1.11	
Ccl12	10.78	0.29	
Ccl7	8.83	1.32	
Ccl19	8.31	0.15	
Il1a	8.17	0.34	
Il4	6.42	1.03	
Casp1	4.40	0.47	
Il1f8	4.32	1.18	
Cd40lg	4.11	-0.23	
Itgb2	3.73	0.12	
Spp1	3.25	-0.01	
Il20	3.06	-0.24	
Hprt1	2.97	1.67	
Ccl2	2.69	1.20	
Ccr6	2.46	0.03	
Cxcr3	2.44	0.01	
Ccl11	2.38	-0.03	
Il3	2.21	0.11	
Ccr3	2.20	-0.13	
Cxcl15	2.19	0.29	
Scye1	2.05	1.64	
Il6st	2.00	-0.67	
Ccl9	1.75	0.01	
Il18	1.74	1.17	
Ccl25	1.71	1.90	
Ccl6	1.67	-0.12	

Target	*HPV16 $^{tg/+}$* vs. Wildtype	
Hsp90a	1.41	Not induced by HPV16^{tg}
Lta	1.31	
Tnfrsf1b	1.05	
Cxcl12	0.00	
Il13ra1	-1.11	
Mif	-1.13	
C3	-1.15	
Cxcr5	-1.18	
Il1r1	-1.21	
Il10rb	-1.21	
Abcf1	-1.21	
Ltb	-1.22	
Gapdh	-1.23	
Il2rb	-1.27	
Il1r2	-1.43	
Gusb	-1.44	
Il17b	-1.50	
Ccr4	-1.50	
Il11	-1.51	
Crp	-1.70	
Il10ra	-1.81	
Il15	-1.85	
Cx3cl1	-1.89	
Ccr9	-1.91	
Pf4	-2.08	
Tollip	-2.13	
Tgfb1	-2.21	
Actb	-2.37	
Il6ra	-2.38	
Ccl24	-2.61	
Tnfrsf1a	-2.98	
Ccr10	-3.10	
Bcl6	-3.45	
Il16	-4.58	

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Supplementary Table 2. Summary of "NfκB Signaling Pathway" array

Target	*HPV16 $^{tg/+}$ vs. W*ildtype	*HPV16 $^{tg/+}$;Krt17 $^{-/-}$* vs. *HPV16 ^{tg}*	
Il6	6.20	-1.73	**HPV16^{tg}-induced, Krt17-dependent**
Gja1	3.14	-1.59	

Target	*HPV16 $^{tg/+}$ vs. W*ildtype	*HPV16 $^{tg/+}$;Krt17 $^{-/-}$* vs. *HPV16 ^{tg}*	
Il1b	13.67	1.33	**HPV16^{tg}-induced, Krt17-independent**
Csf2	13.44	1.17	
Il1a	5.02	1.03	
Bcl3	4.78	1.77	
Il10	3.66	1.07	
Ifng	3.45	1.23	
Gapdh	1.83	1.04	
Casp1	1.75	1.37	
Stat1	1.74	-1.09	
Tnfsf14	1.56	-1.45	
Nlrp12	1.53	3.60	
Cd40	1.53	-1.32	

Target	*HPV16 $^{tg/+}$ vs. W*ildtype	
Fasl	1.49	**Not induced by HPV16^{tg}**
Csf3	1.47	
Hprt1	1.38	
Myd88	1.34	
Fadd	1.33	
Tlr1	1.31	
Tnfsf10	1.15	
Slc20a1	1.09	

Target	*HPV16 $^{tg/+}$ vs. W*ildtype	
Tnfrsf1a	1.09	**Not induced by HPV16^{tg}**
Ltbr	1.08	
Nfkb1	1.03	
Tnf	-1.01	
Irf1	-1.04	
Traf3	-1.10	
Rela	-1.10	
Akt1	-1.11	
Hsp90ab1	-1.15	
Rel	-1.16	
Tnfrsf1b	-1.18	
Icam1	-1.22	
Zap70	-1.24	
Bcl10	-1.27	
Nod1	-1.27	
Eif2ak2	-1.28	
Nfkbia	-1.28	
Tbk1	-1.29	
Tnfaip3	-1.30	
Atf1	-1.31	
Mapk3	-1.34	
Cflar	-1.37	
Tradd	-1.39	
Egr1	-1.41	
Jun	-1.42	
Nfkb2	-1.43	
Tlr6	-1.44	
C3	-1.44	
Actb	-1.44	
Cd27	-1.45	
Tlr9	-1.49	
Irak2	-1.50	
Ccl2	-1.52	
Gusb	-1.53	

Target	*HPV16 $^{tg/+}$ vs. W*ildtype	
Chuk	-1.56	**Not induced by HPV16^{tg}**
Tlr2	-1.56	
Htr2b	-1.57	
Raf1	-1.60	
Relb	-1.66	
Ikbkb	-1.70	
Traf2	-1.71	
Tlr3	-1.72	
Ikbke	-1.75	
Tollip	-1.84	
Irak1	-1.93	
Ikbkg	-1.94	
Crebbp	-1.95	
Tgfbr2	-2.05	
Ripk2	-2.06	
Ripk1	-2.07	
Tgfbr1	-2.08	
Tlr8	-2.14	
Card10	-2.21	
Kat2b	-2.29	
Tnfrsf10b	-2.30	
Casp8	-2.35	
F2r	-2.45	
Lta	-2.48	
Il1r1	-2.56	
Elk1	-2.60	
Atf2	-2.64	
Tlr7	-2.75	
Map3k1	-2.75	
Tlr4	-2.79	
Fos	-2.87	
Smad3	-4.34	
Lpar1	-5.65	

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Supplementary Table 3. Summary of "T_h17 for Autoimmunity and Inflammation" Array

Target	*HPV16 $^{tg/+}$ vs. W*ildtype	*HPV16 $^{tg/+}$;Krt17 $^{-/-}$* vs. *HPV16 ^{tg}*	
Il12rb2	2.06	-2.20	HPV16^{tg}-induced, Krt17-dependent
Socs3	1.72	-2.16	
Ccl22	2.01	-1.94	
Il3	5.45	-1.86	
Il4	6.65	-1.81	
Mmp13	4.18	-1.78	
Cxcl5	11.28	-1.66	
Cxcl2	21.55	-1.65	

Target	*HPV16 $^{tg/+}$ vs. W*ildtype	*HPV16 $^{tg/+}$;Krt17 $^{-/-}$* vs. *HPV16 ^{tg}*	
Il23a	15.16	2.05	HPV16^{tg}-induced, Krt17-independent
Csf2	15.10	1.06	
Il1b	14.45	-1.30	
Il22	11.36	-1.37	
Ccl20	9.69	1.00	
Il6	9.49	-1.12	
Il12b	7.09	-1.29	
Il17a	6.30	-1.29	
Clec7a	4.47	1.14	
Ifng	4.39	-1.47	
Icos	3.89	-1.06	
Il10	3.39	-1.17	
Cxcl1	2.83	-1.19	
Csf3	2.76	-1.45	
Cd8a	1.96	-1.07	
Il17f	1.91	1.27	
Foxp3	1.91	-1.14	
Cd40lg	1.82	1.05	
Gapdh	1.75	-1.10	
Il21	1.71	1.06	
Ccl1	1.54	1.02	

Target	*HPV16 $^{tg/+}$ vs. W*ildtype	
Hprt1	1.37	Not induced by HPV16^{tg}
Socs1	1.26	
Cebpb	1.25	
Il18	1.21	
Cacybp	1.16	
Cd4	1.13	
Myd88	1.11	
Syk	1.08	
Traf6	1.07	
Ccl7	1.02	
Nfkb1	1.01	
Stat3	1.01	
Hsp90ab1	-1.05	
Il17rc	-1.05	
Tnf	-1.13	
Il13	-1.15	
Il17c	-1.16	
Il23r	-1.16	
Cd2	-1.24	
Icam1	-1.28	
Il7r	-1.29	
Yy1	-1.37	
Il12rb1	-1.38	
Stat5a	-1.38	
Actb	-1.42	
Stat6	-1.50	
Tirap	-1.56	
Ccl2	-1.57	
Jak1	-1.60	
Gusb	-1.61	
Il17re	-1.63	
Jak2	-1.79	
Stat4	-1.79	
Il27	-1.83	
Tgfb1	-2.00	

Target	*HPV16 $^{tg/+}$ vs. W*ildtype	
Isg20	-2.18	Not induced by HPV16^{tg}
Cd247	-2.19	
Cx3cl1	-2.19	
Gata3	-2.56	
Il5	-2.59	
Mmp3	-2.73	
Cxcl12	-2.92	
Mmp9	-2.92	
Tlr4	-2.98	
Cd28	-2.98	
Il17rb	-3.22	
S1pr1	-3.30	
Cd3d	-3.36	
Nfatc2	-3.44	
Tbx21	-3.80	
Il15	-3.84	
Il6ra	-4.01	
Il17d	-4.10	
Il17rd	-4.26	
Cd34	-4.35	
Rorc	-5.24	
Cd3e	-5.77	
Cd3g	-5.87	
Il25	-6.27	
Il2	-6.89	

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Supplementary Table 4. Summary of "Signal Transduction PathwayFinder" array

Target	*HPV16 $^{tg/+}$ vs. Wildtype*	*HPV16 $^{tg/+}$;Krt17 $^{-/-}$ vs. HPV16 ^{tg}*	
Cdkn2a	30.60	-1.98	HPV16^{tg}-induced, Krt17-dependent
Cxcl9	30.21	-1.88	
Fos	3.47	-2.63	
Ccl2	2.28	-2.29	
Selp	2.24	-1.64	
Fas	1.90	-9.39	
Il4ra	1.85	-1.81	
Tnf	1.84	-2.54	

Target	*HPV16 $^{tg/+}$ vs. Wildtype*	*HPV16 $^{tg/+}$;Krt17 $^{-/-}$ vs. HPV16 ^{tg}*	
Csf2	17.93	1.26	HPV16^{tg}-induced, Krt17-independent
Fasl	11.71	1.04	
Ccl20	8.59	1.57	
Cxcl1	6.73	1.64	
Il1a	6.70	-1.44	
Il2ra	4.66	1.07	
Ptgs2	3.30	-1.11	
Birc5	2.59	1.80	
Cd5	2.14	1.07	
Cebpb	1.96	1.17	
Egr1	1.94	1.01	
Sele	1.80	-1.20	
Hk2	1.77	1.37	
Tank	1.59	1.29	

Target	*HPV16 $^{tg/+}$ vs. Wildtype*	
Rbp1	1.56	Not induced by HPV16^{tg}
Brca1	1.48	
Hprt1	1.47	
Hsp90ab1	1.39	
Cdk2	1.39	
Birc3	1.35	
Mmp10	1.34	
Mmp7	1.33	
Tfrc	1.20	
Vcam1	1.18	
Myc	1.14	
Greb1	1.14	
Igfbp4	1.11	
Tcf7	1.10	
Wisp1	1.10	
Gapdh	1.10	
Gadd45a	1.03	
Nos2	1.02	
En1	-1.03	
Atf2	-1.08	
Il2	-1.14	
Irf1	-1.30	
Trp53	-1.33	
Actb	-1.33	
Foxa2	-1.35	
Nfkbia	-1.38	
Cdkn2b	-1.44	
Odc1	-1.45	
Cdkn1a	-1.47	
Nrip1	-1.55	
Mdm2	-1.64	
Jun	-1.68	
Gusb	-1.69	
Cyp19a1	-1.89	

Target	*HPV16 $^{tg/+}$ vs. Wildtype*	
Cdh1	-1.91	Not induced by HPV16^{tg}
Icam1	-1.96	
Vegfa	-2.07	
Pparg	-2.14	
Lta	-2.19	
Hhip	-2.22	
Wnt1	-2.26	
Fasn	-2.33	
Naip1	-2.54	
Birc2	-2.64	
Ikbkb	-2.85	
Bax	-2.91	
Nab2	-2.92	
Hsf1	-3.01	
Tert	-3.25	
Ei24	-3.28	
Cdkn1b	-3.38	
Ccnd1	-3.43	
Lef1	-3.52	
Bmp4	-3.54	
Hoxa1	-3.99	
Wnt2	-4.31	
Ptch1	-4.67	
Hspb1	-4.68	
Pmepa1	-5.07	
Fn1	-5.16	
Bmp2	-5.66	
Fgf4	-5.78	
Igfbp3	-5.93	
Gys1	-6.26	
Bcl2l1	-7.94	
Bcl2	-10.67	
Lep	-17.92	

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Supplementary Table 5. Summary of "Innate and Adaptive Immune Response" array

Target	*HPV16 tg/+ vs. Wildtype*	*HPV16 tg/+ ;Krt17 -/- vs. HPV16 tg*	
Ccr3	5.30	-3.26	HPV16tg-induced, Krt17-dependent
Pglyrp3	4.62	-2.29	
Prg2	9.94	-2.23	
Tnf	2.11	-1.96	
Hc	1.98	-1.75	

Target	*HPV16 tg/+ vs. Wildtype*	*HPV16 tg/+ ;Krt17 -/- vs. HPV16 tg*	
Defb4	213.43	2.85	HPV16tg-induced, Krt17-independent
Trem1	90.63	4.10	
Il1b	64.40	2.08	
Il6	32.35	1.13	
Il1f6	22.05	2.74	
Clec7a	19.25	-1.37	
Il1f5	16.15	2.45	
Ifnb1	9.70	-1.25	
Tlr1	8.85	1.27	
Il10	8.68	-1.18	
Il1a	6.48	2.42	
Cd14	4.56	1.04	
Il1f9	4.32	1.86	
Casp1	4.26	3.04	
Casp4	4.23	1.54	
Il1f8	3.96	1.04	
Ccl2	3.60	-1.30	
Lyz1	3.41	2.30	
Hprt	2.56	3.96	
Il1rn	2.46	2.31	
Ly96	2.13	1.71	
Hsp90ab1	1.78	2.06	
Chuk	1.63	3.79	
Dmbt1	1.59	N/A	
Proc	1.59	N/A	
Sftpd	1.59	2.28	

Target	*HPV16 tg/+ vs. Wildtype*	
C8a	1.47	Not induced by HPV16tg
Tlr3	1.40	
Il12rb2	1.37	
Pglyrp1	1.34	
Irak1	1.24	
Ltf	1.05	
Ptafr	1.03	
Nfkb1	-1.00	
Ppbp	-1.01	
Cxcr4	-1.02	
Ncf4	-1.02	
Serpina1a	-1.04	
Tlr8	-1.05	
Irf1	-1.07	
Gusb	-1.11	
Il1r1	-1.15	
Cybb	-1.16	
Nfkbia	-1.25	
Cd55	-1.36	
Mif	-1.39	
Mapk14	-1.48	
Tlr4	-1.52	
Gapdh	-1.57	
Serpine1	-1.57	
Nlrc4	-1.68	
Il1r2	-1.71	
Tlr6	-1.78	
Nfkb2	-1.93	
Irak2	-1.94	
Tlr9	-2.01	
Lbp	-2.11	
Tollip	-2.16	
Il1rap	-2.16	
Tlr2	-2.18	

Target	*HPV16 tg/+ vs. Wildtype*	
Mapk8	-2.22	Not induced by HPV16tg
Cfp	-2.25	
Pglyrp2	-2.26	
Tgfb1	-2.43	
Actb	-2.62	
Nos2	-2.70	
Traf6	-2.82	
Crp	-3.24	
Adora2a	-3.32	
Hmox1	-3.57	
Lalba	-3.62	
Colec12	-3.79	
Ikbkb	-3.83	
Tnfrsf1a	-4.14	
Ifngr1	-4.43	
Ifngr2	-4.74	
Camp	-4.91	
Cd1d1	-5.21	
Il1f10	-5.26	
Myd88	-5.56	
Stab1	-6.03	
Fn1	-6.44	
Il1rapl2	N/A	
Il1rl2	N/A	

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Supplementary Table 6. List of qRT-PCR target genes and primers sets

MOUSE				HUMAN		
Target	**Primer**	**Sequence (5'-->3')**		**Target**	**Primer**	**Sequence (5'-->3')**
Actb	Forward	GGCTGTATTCCCCTCCATCG		*ACTB*	Forward	CATGTACGTTGCTATCCAGGC
Actb	Reverse	CCAGTTGGTAACAATGCCATGT		*ACTB*	Reverse	CTCCTTAATGTCACGCACGAT
Aire	Forward	AGGTCAGCTTCAGAGAAAACCA		*AIRE*	Forward	CCAGGCTCTCAACTGAAGGC
Aire	Reverse	TCATTCCCAGCACTCAGTAGA		*AIRE*	Reverse	GAATCCCGTTCCCGAGTGG
Anxa2	Forward	TGCTCTGAACATTGAGACAGC		*ANXA2*	Forward	GAGCGGGATGCTTTGAACATT
Anxa2	Reverse	AATAGGCCCAAAATCACCGTC		*ANXA2*	Reverse	TAGGCGAAGGCAATATCCTGT
Axin2	Forward	ATGAGTAGCGCCGTGTTAGTG		*AXIN2*	Forward	CAACACCAGGCGGAACGAA
Axin2	Reverse	GGGCATAGGTTTGGTGGACT		*AXIN2*	Reverse	GCCCAATAAGGAGTGTAAGGACT
Ccl19	Forward	CCTGGGAACATCGTGAAAGC		*CCL19*	Forward	TACATCGTGAGGAACTTCCACT
Ccl19	Reverse	TAGTGTGGTGAACACAACAGC		*CCL19*	Reverse	CTGGATGATGCGTTCTACCCA
Ccl2	Forward	TTAAAAACCTGGATCGGAACCAA		*CCL2*	Forward	CAGCCAGATGCAATCAATGCC
Ccl2	Reverse	GCATTAGCTTCAGATTTACGGGT		*CCL2*	Reverse	TGGAATCCTGAACCCACTTCT
Ccl22	Forward	AAGCCTGGCGTTGTTTTGATA		*CCL22*	Forward	ATCGCCTACAGACTGCACTC
Ccl22	Reverse	CCTGGGATCGGCACAGATA		*CCL22*	Reverse	GACGGTAACGGACGTAATCAC
Ccl25	Forward	GAGGGCGATGAGAATCTTGAC		*CCL25*	Forward	CACCACAACACGCAGACCTT
Ccl25	Reverse	TCCTCACGCTTGTACTGTTGG		*CCL25*	Reverse	TGCTGATGGGATTGCTAAACTT
Ccl5	Forward	GCTGCTTTGCCTACCTCTCC		*CCL5*	Forward	TCCAACCCAGCAGTCGTCT
Ccl5	Reverse	TCGAGTGACAAACACGACTGC		*CCL5*	Reverse	TTGGCGGTTCTTTCGGGTG
Ccr4	Forward	TGCACCAAGGAAGGTATCAAGG		*CCR4*	Forward	AGAAGGCATCAAGGCATTTGG
Ccr4	Reverse	GTACACGTCCGTCATGGACTT		*CCR4*	Reverse	ACACATCAGTCATGGACCTGAG
Ccr7	Forward	GTACGAGTCGGTGTGCTTCAA		*CCR7*	Forward	TGAGGTCACGGACGATTACAT
Ccr7	Reverse	GGTAGGTATCCGTCATGGTCT		*CCR7*	Reverse	GTAGGCCCACGAAACAAATGAT
Cd40	Forward	TTGTTGACAGCGGTCCATCTA		*CD40*	Forward	CACCTGGAACAGAGAGACACA
Cd40	Reverse	CCATCGTGGAGGTACTGTTTG		*CD40*	Reverse	CCTCACTCGTACAGTGCCA
Cflar	Forward	GCTCCAGAATGGGCGAAGTAA		*CFLAR*	Forward	TGCTCTTTTTGTGCCGGGAT
Cflar	Reverse	ACGGATGTGCGGAGGTAAAAA		*CFLAR*	Reverse	CGACAGACAGCTTACCTCTTTC
Cxcl10	Forward	CCAAGTGCTGCCGTCATTTTC		*CXCL10*	Forward	GTGGCATTCAAGGAGTACCTC
Cxcl10	Reverse	GGCTCGCAGGGATGATTTCAA		*CXCL10*	Reverse	TGATGGCCTTCGATTCTGGATT
Cxcl11	Forward	GGCTTCCTTATGTTCAAACAGGG		*CXCL11*	Forward	GACGCTGTCTTTGCATAGGC
Cxcl11	Reverse	GCCGTTACTCGGGTAAATTACA		*CXCL11*	Reverse	GGATTTAGGCATCGTTGTCCTTT
Cxcl5	Forward	TCCAGCTCGCCATTCATGC		*CXCL5*	Forward	AGCTGCGTTGCGTTTGTTTAC
Cxcl5	Reverse	TTGCGGCTATGACTGAGGAAG		*CXCL5*	Reverse	GCGAACACTTGCAGATTACTGA
Cxcl9	Forward	TCCTTTTGGGCATCATCTTCC		*CXCL9*	Forward	GTAGTGAGAAAGGGTCGCTGT
Cxcl9	Reverse	TTTGTAGTGGATCGTGCCTCG		*CXCL9*	Reverse	AGGGCTTGGGGCAAATTGTT
Cxcr3	Forward	TACCTTGAGGTTAGTGAACGTCA		*CXCR3*	Forward	CCACCTAGCTGTAGCAGACAC
Cxcr3	Reverse	CGCTCTCGTTTTCCCCATAATC		*CXCR3*	Reverse	AGGGCTCCTGCGTAGAAGTT
Deptor	Forward	GATAGACGGCACCATCTCAAAA		*DEPTOR*	Forward	CCTACCCAAACTGTTTTGTCGC
Deptor	Reverse	GGCCTCCTTATGTTCAATGAGC		*DEPTOR*	Reverse	CGGTCTGCTAATTTCTGCATGAG
Egr1	Forward	TCGGCTCCTTTCCTCACTCA		*EGR1*	Forward	GGTCAGTGGCCTAGTGAGC
Egr1	Reverse	CTCATAGGGTTGTTCGCTCGG		*EGR1*	Reverse	GTGCCGCTGAGTAAATGGGA
Eif4e	Forward	AACCGGAAACCACCCCTAC		*EIF4E*	Forward	TGCGGCTGATCTCCAAGTTTG
Eif4e	Reverse	CTCTGGGTTAGCAACCTCCT		*EIF4E*	Reverse	CCCACATAGGCTCAATACCATC
Eif4ebp1	Forward	GGGGACTACAGCACCACTC		*EIF4EBP1*	Forward	CTATGACCGGAAATTCCTGATGG
Eif4ebp1	Reverse	GTTCCGACACTCCATCAGAAAT		*EIF4EBP1*	Reverse	CCCGCTTATCTTCTGGGCTA
Fn1	Forward	TTCAAGTGTGATCCCCATGAAG		*FN1*	Forward	AGGAAGCCGAGGTTTTAACTG
Fn1	Reverse	CAGGTCTACGGCAGTTGTCA		*FN1*	Reverse	AGGACGCTCATAAGTGTCACC

Foxp3	Forward	ACCATTGGTTTACTCGCATGT	*FOXP3*	Forward	CTTCAAGTTCCACAACATGCG
Foxp3	Reverse	TCCACTCGCACAAAGCACTT	*FOXP3*	Reverse	CGTGGCGTAGGTGAAAGGG
GAPDH	Forward	AAATGGTGAAGGTCGGTGT	*GAPDH*	Forward	AAGGTGAAGGTCGGAGTCAAC
GAPDH	Reverse	ACTCCACGACATACTCAGCAC	*GAPDH*	Reverse	GGGGTCATTGATGGCAACAATA
Hnrnpa2b1	Forward	GTTGAGCCAAAACGTGCTGTA	*HNRNPA2B1*	Forward	TGGAGGTAGCCCCGGTTATG
Hnrnpa2b1	Reverse	TTTCCAGACTGCCTATCGGTA	*HNRNPA2B1*	Reverse	GGACCGTAGTTAGAAGGTTGCT
Hnrnpd	Forward	CCCCACGACACACTGAAGC	*HNRNPD*	Forward	GCGTGGGTTCTGCTTTATTACC
Hnrnpd	Reverse	CGCCCTGTGATAGGATCTAACT	*HNRNPD*	Reverse	TTGCTGATATTGTTCCTTCGACA
Hnrnpk	Forward	ACTGATGAGATGGTTGAATTGCG	*HNRNPK*	Forward	GCAGGAGGAATTATTGGGGTC
Hnrnpk	Reverse	CTGGCATTGTAGTCTGTACGG	*HNRNPK*	Reverse	TGCACTCTACAACCCTATCGG
Hspa1a/1b	Forward	TGGTGCAGTCCGACATGAAG	*HSPA1A/1B*	Forward	TTTGAGGGCATCGACTTCTACA
Hspa1a/1b	Reverse	GCTGAGAGTCGTTGAAGTAGGC	*HSPA1A/1B*	Reverse	CCAGGACCAGGTCGTGAATC
Hspa5	Forward	ACTTGGGGACCACCTATTCCT	*HSPA5*	Forward	CATCACGCCGTCCTATGTCG
Hspa5	Reverse	ATCGCCAATCAGACGCTCC	*HSPA5*	Reverse	CGTCAAAGACCGTGTTCTCG
Hspa8	Forward	TCTCGGCACCACCTACTCC	*HSPA8*	Forward	ATGCCAAACGTCTGATTGGAC
Hspa8	Reverse	CTACGCCCGATCAGACGTTT	*HSPA8*	Reverse	AGCATCATTCACCACCATAAAGG
Hspa9	Forward	ATGGCTGGAATGGCCTTAGC	*HSPA9*	Forward	CTTGTTTCAAGGCGGGATTATGC
Hspa9	Reverse	ACCCAAATCAATACCAACCACTG	*HSPA9*	Reverse	GCAGGAGTTGGTAGTACCCAAA
Icam1	Forward	GTGATGCTCAGGTATCCATCCA	*ICAM1*	Forward	ATGCCCAGACATCTGTGTCC
Icam1	Reverse	CACAGTTCTCAAAGCACAGCG	*ICAM1*	Reverse	GGGGTCTCTATGCCCAACAA
Ido1	Forward	GCTTTGCTCTACCACATCCAC	*IDO1*	Forward	TTGCACGTCTAGTTCTGGGAT
Ido1	Reverse	CAGGCGCTGTAACCTGTGT	*IDO1*	Reverse	GCAAGACCTTACGGACATCTCC
Ido2	Forward	AAGGCCAACCCCAAAAGGTG	*IDO2*	Forward	CCACAGACCGAATGTGAAGAC
Ido2	Reverse	ACCAGGATAGGCGGGAGTC	*IDO2*	Reverse	TGTTGGCAATTTCCATCCAAGG
Ifng	Forward	ATGAACGCTACACACTGCATC	*IFNG*	Forward	TCGGTAACTGACTTGAATGTCCA
Ifng	Reverse	CCATCCTTTTGCCAGTTCCTC	*IFNG*	Reverse	TCGCTTCCCTGTTTTAGCTGC
Ikbkb	Forward	GACATCGCATCGGCTCTTAGA	*IKBKB*	Forward	GTCTTTGCACATCATTCGTGGG
Ikbkb	Reverse	AACGGTCACGGTGTACTTCTG	*IKBKB*	Reverse	GTGCCGAAGCTCCAGTAGTC
Il17a	Forward	TTTAACTCCCTTGGCGCAAAA	*IL17A*	Forward	TCCCACGAAATCCAGGATGC
Il17a	Reverse	CTTTCCCTCCGCATTGACAC	*IL17A*	Reverse	TGTTCAGGTTGACCATCACAGT
Il17c	Forward	CTCCTGCTTCTAGGCTGGTTG	*IL17C*	Forward	CCACACTGCTACTCGGCTG
Il17c	Reverse	CCACCTGGCACTTCGAGTTAG	*IL17C*	Reverse	CACACGGTATCTCCAGGGTGA
Il20	Forward	TCTTGCCTTTGGACTGTTCTCC	*IL20*	Forward	TTTTCTGAGATACGGGGCAGT
Il20	Reverse	GTTTGCAGTAATCACACAGCTTC	*IL20*	Reverse	GTCTTAGCAAATGGCGCAGGA
Il4	Forward	GGTCTCAACCCCCAGCTAGT	*IL4*	Forward	CGGCAACTTTGTCCACGGA
Il4	Reverse	GCCGATGATCTCTCTCAAGTGAT	*IL4*	Reverse	TCTGTTACGGTCAACTCGGTG
Il6	Forward	CCAAGAGGTGAGTGCTTCCC	*IL6*	Forward	AATTCGGTACATCCTCGACGG
Il6	Reverse	CTGTTGTTCAGACTCTCTCCCT	*IL6*	Reverse	TTGGAAGGTTCAGGTTGTTTTCT
Irf1	Forward	ATGCCAATCACTCGAATGCG	*IRF1*	Forward	TTCACACAGGCCGATACAAAG
Irf1	Reverse	TTGTATCGGCCTGTGTGAATG	*IRF1*	Reverse	CATGGCACAGCGAAAGTTGG
Krt14	Forward	AGCGGCAAGAGTGAGATTTCT	*KRT14*	Forward	TGAGCCGCATTCTGAACGAG
Krt14	Reverse	CCTCCAGGTTATTCTCCAGGG	*KRT14*	Reverse	GATGACTGCGATCCAGAGGA
Krt16	Forward	GGTGGCCTCTAACAGTGATCT	*KRT16*	Forward	GACCGGCGGAGATGTGAAC
Krt16	Reverse	TGCATACAGTATCTGCCTTTGG	*KRT16*	Reverse	CTGCTCGTACTGGTCACGC
Krt17	Forward	ACCATCCGCCAGTTTACCTC	*KRT17*	Forward	GGTGGGTGGTGAGATCAATGT
Krt17	Reverse	CTACCCAGGCCACTAGCTGA	*KRT17*	Reverse	CGCGGTTCAGTTCCTCTGTC
Mapkap1	Forward	GAGACGCAGGGCTACATATACG	*MAPKAP1*	Forward	GGTGGACACCGATTTCCCC
Mapkap1	Reverse	GCGGAGTCGTTCTAATCTTTGA	*MAPKAP1*	Reverse	CGCTTCACTGCCTTCAGTAAGA
Mlst8	Forward	ATCAGTGGGCTTTCACGAGG	*MLST8*	Forward	TGTGGGCTTCCACGAAGAC
Mlst8	Reverse	GGTGCGTTCACCTGGAAGAT	*MLST8*	Reverse	AGTTAATGGGTGCGTTCACCT
Mmp2	Forward	ACCTGAACACTTTCTATGGCTG	*MMP2*	Forward	GATACCCCTTTGACGGTAAGGA
Mmp2	Reverse	CTTCCGCATGGTCTCGATG	*MMP2*	Reverse	CCTTCTCCCAAGGTCCATAGC

Mmp3	Forward	ACATGGAGACTTTGTCCCTTTTG		*MMP3*	Forward	CTGGACTCCGACACTCTGGA
Mmp3	Reverse	TTGGCTGAGTGGTAGAGTCCC		*MMP3*	Reverse	CAGGAAAGGTTCTGAAGTGACC
Mmp9	Forward	CTGGACAGCCAGACACTAAAG		*MMP9*	Forward	TGTACCGCTATGGTTACACTCG
Mmp9	Reverse	CTCGCGGCAAGTCTTCAGAG		*MMP9*	Reverse	GGCAGGGACAGTTGCTTCT
Mpz	Forward	CGGACAGGGAAATCTATGGTGC		*MPZ*	Forward	CATCGTGGTTTACACCGACAG
Mpz	Reverse	GCGCCAGGTAAAAGAGATGTCA		*MPZ*	Reverse	TGGAAGATCGAAATGGCATCTCT
Mpzl1	Forward	TGGATGGTTGACCACGGTCT		*MPZL1*	Forward	ACGCCAAAAGAAATCTTCGTGG
Mpzl1	Reverse	CCCAGGTGACTCGGTCTTT		*MPZL1*	Reverse	TCAACCCGCCAGTCGTACTA
Mpzl2	Forward	GATGCGCTAACTGTGACGTG		*MPZL2*	Forward	TTAATGGGACAGATGCTCGGT
Mpzl2	Reverse	GGTCTTTGAACCGTCCGCT		*MPZL2*	Reverse	AAGACACCCGGTCCTTAAACC
Mpzl3	Forward	CCTTGGAGATAAGTGCCGATG		*MPZL3*	Forward	ATGCCCATGTCCGAGGTTATG
Mpzl3	Reverse	CGGTATGTCCAGTCTATGGTCA		*MPZL3*	Reverse	GGAGGGCGATATGTCCAGTCT
Mtor	Forward	CAGTTCGCCAGTGGACTGAAG		*MTOR*	Forward	ACTCGCTTCTATGACCAACTGA
Mtor	Reverse	GCTGGTCATAGAAGCGAGTAGAC		*MTOR*	Reverse	CACCTTCCACTCCTATGAGGC
Myd88	Forward	TCATGTTCTCCATACCCTTGGT		*MYD88*	Forward	GGCTGCTCTCAACATGCGA
Myd88	Reverse	AAACTGCGAGTGGGGTCAG		*MYD88*	Reverse	CTGTGTCCGCACGTTCAAGA
Nfkbia	Forward	TGAAGGACGAGGAGTACGAGC		*NFKBIA*	Forward	CTCCGAGACTTTCGAGGAAATAC
Nfkbia	Reverse	TTCGTGGATGATTGCCAAGTG		*NFKBIA*	Reverse	GCCATTGTAGTTGGTAGCCTTCA
Prkca	Forward	GTTTACCCGGCCAACGACT		*PRKCA*	Forward	AAGGGACCCGACACTGATGA
Prkca	Reverse	GGGCGATGAATTTGTGGTCTT		*PRKCA*	Reverse	AAGGTGGGGCTTCCGTAAGT
Ptgs2	Forward	TGCACTATGGTTACAAAAGCTGG		*PTGS2*	Forward	CCAGTATAAGTGCGATTGTACCC
Ptgs2	Reverse	TCAGGAAGCTCCTTATTTCCCTT		*PTGS2*	Reverse	TCAAAAATTCCGGTGTTGAGCA
Rela	Forward	AGGCTTCTGGGCCTTATGTG		*RELA*	Forward	GTGGGGACTACGACCTGAATG
Rela	Reverse	TGCTTCTCTCGCCAGGAATAC		*RELA*	Reverse	GGGGCACGATTGTCAAAGATG
Rictor	Forward	GCTGCGCTATCTCATCCAAGA		*RICTOR*	Forward	TCCAAAGACTCGACAGTATGTGC
Rictor	Reverse	CTTTCTGACTAAGCGAAGGGC		*RICTOR*	Reverse	GGCTAGAAATCGTGCTTCTCTG
Rn18s	Forward	CCTGTGCCTTCCTTGGA		*RPS18*	Forward	GCGGCGGAAAATAGCCTTTG
Rn18s	Reverse	CATTCGAACGTCTGCCCTATC		*RPS18*	Reverse	GATCACACGTTCCACCTCATC
Rps6kb1	Forward	GGGGCTATGGAAAGGTTTTTCA		*RPS6KB1*	Forward	AGAACTTCTGGCTCGAAAGGT
Rps6kb1	Reverse	CGTGTCCTTAGCATTCCTCACT		*RPS6KB1*	Reverse	CGACAGGTGTCTGACGTGTAA
Rptor	Forward	TGTGAGAAAATCGAAGGCTCC		*RPTOR*	Forward	AATGCTGCAATCGCCTCTTCT
Rptor	Reverse	TTTGCACCGATGGTTTCCAGA		*RPTOR*	Reverse	GCCAAAGGTAGGTTCCAGTCTG
Runx1	Forward	GCAGGCAACGATGAAAACTACT		*RUNX1*	Forward	CTGCCCATCGCTTTCAAGGT
Runx1	Reverse	GCAACTTGTGGCGGATTTGTA		*RUNX1*	Reverse	GCCGAGTAGTTTTCATCATTGCC
S100a10	Forward	TGGAAACCATGATGCTTACGTT		*S100A10*	Forward	GGCTACTTAACAAAGGAGGACC
S100a10	Reverse	GAAGCCCACTTTGCCATCTC		*S100A10*	Reverse	GAGGCCCGCAATTAGGGAAA
S100a4	Forward	TGAGCAACTTGGACAGCAACA		*S100A4*	Forward	GATGAGCAACTTGGACAGCAA
S100a4	Reverse	TTCCGGGGTTCCTTATCTGGG		*S100A4*	Reverse	CTGGGCTGCTTATCTGGGAAG
S100a5	Forward	ATTCAGGGAGAGAGGGTAGCA		*S100A5*	Forward	GGAGAGAGGGTAGCAAACTGA
S100a5	Reverse	CTCTGCAAGACTCAGCTCTGT		*S100A5*	Reverse	TCCCCAAGACACAGCTCTTTC
S100a7a	Forward	AGGAGTTGAAAGCTCTGCTCT		*S100A7*	Forward	ACGTGATGACAAGATTGACAAGC
S100a7a	Reverse	GCTCTGTGATGTAGTATGGCTG		*S100A7*	Reverse	GCGAGGTAATTTGTGCCCTTT
S100a8	Forward	AAATCACCATGCCCTCTACAAG		*S100A8*	Forward	ATGCCGTCTACAGGGATGAC
S100a8	Reverse	CCCACTTTTATCACCATCGCAA		*S100A8*	Reverse	ACACTCGGTCTCTAGCAATTTCT
S100a9	Forward	ATACTCTAGGAAGGAAGGACACC		*S100A9*	Forward	GGTCATAGAACACATCATGGAGG
S100a9	Reverse	TCCATGATGTCATTTATGAGGGC		*S100A9*	Reverse	GGCCTGGCTTATGGTGGTG
Sdc1	Forward	CTTTGTCACGGCAGACACCTT		*SDC1*	Forward	CTGCCGCAAATTGTGGCTAC
Sdc1	Reverse	GACAGAGGTAAAAGCAGTCTCG		*SDC1*	Reverse	TGAGCCGGAGAAGTTGTCAGA
Sfn	Forward	GTGTGTGCGACACCGTACT		*SFN*	Forward	TGACGACAAGAAGCGCATCAT
Sfn	Reverse	CTCGGCTAGGTAGCGGTAG		*SFN*	Reverse	GTAGTGGAAGACGGAAAAGTTCA
Socs1	Forward	CTGCGGCTTCTATTGGGGAC		*SOCS1*	Forward	TTTTCGCCCTTAGCGTGAAGA
Socs1	Reverse	AAAAGGCAGTCGAAGGTCTCG		*SOCS1*	Reverse	GAGGCAGTCGAAGCTCTCG

Stat1	Forward	GCTGCCTATGATGTCTCGTTT	*STAT1*	Forward	GCAGGTTCACCAGCTTTATGA
Stat1	Reverse	TGCTTTTCCGTATGTTGTGCT	*STAT1*	Reverse	TGAAGATTACGCTTGCTTTTCCT
Stat2	Forward	TTTGGCTACCTGGATTGAAGAC	*STAT2*	Forward	CCAGCTTTACTCGCACAGC
Stat2	Reverse	GGCTGAATTTTCGCAAGTTATGC	*STAT2*	Reverse	AGCCTTGGAATCATCACTCCC
Stat3	Forward	CACCTTGGATTGAGAGTCAAGAC	*STAT3*	Forward	CAGCAGCTTGACACACGGTA
Stat3	Reverse	AGGAATCGGCTATATTGCTGGT	*STAT3*	Reverse	AAACACCAAAGTGGCATGTGA
Stat4	Forward	GCACTCAGTAAGATGACGCAG	*STAT4*	Forward	TGTTGGCCCAATGGATTGAAA
Stat4	Reverse	CCAGTAGGGTAAAGCAGTTCTG	*STAT4*	Reverse	GGAAACACGACCTAACTGTTCAT
Stat5a	Forward	CAGCCGTGGGATGCTATTGA	*STAT5A*	Forward	GCAGAGTCCGTGACAGAGG
Stat5a	Reverse	GGGACAGCGGTCATACGTG	*STAT5A*	Reverse	CCACAGGTAGGGACAGAGTCT
Stat5b	Forward	TGTCCCTGAAACGAATCAAGAG	*STAT5B*	Forward	GAACACCCGCAATGATTACAGT
Stat5b	Reverse	CTGAACTGTGAGTCAAACAGGAT	*STAT5B*	Reverse	ACGGTCTGACCTCTTAATTCGT
Stat6	Forward	TGGAGAGCATCTATCAGAGGGA	*STAT6*	Forward	GTTCCGCCACTTGCCAATG
Stat6	Reverse	GCGGAACTCTTCTATAACAGCTT	*STAT6*	Reverse	TGGATCTCCCCTACTCGGTG
Tcf4	Forward	GATGGGACTCCCTATGACCAC	*TCF4*	Forward	AAAAATGGACCAACTTCTTTGGC
Tcf4	Reverse	GAAAGGGTTCCTGGATTGCCC	*TCF4*	Reverse	GGAATTGACAAAAGGTGGAGAGA
Thbs1	Forward	CCTGCCAGGGAAGCAACAA	*THBS1*	Forward	AGACTCCGCATCGCAAAGG
Thbs1	Reverse	ACAGTCTATGTAGAGTTGAGCCC	*THBS1*	Reverse	TCACCACGTTGTTGTCAAGGG
Thbs2	Forward	GGGGACACTTTGGACCTCAAC	*THBS2*	Forward	GACACGCTGGATCTCACCTAC
Thbs2	Reverse	GCAGCCCACATACAGGCTA	*THBS2*	Reverse	GAAGCTGTCTATGAGGTCGCA
Tnfrsf11a	Forward	CAGATGTCTTTTCGTCCACAGA	*TNFRSF11A*	Forward	TCCTCCACGGACAAATGCAG
Tnfrsf11a	Reverse	AGACTGGGCAGGTAAGCCT	*TNFRSF11A*	Reverse	CAAACCGCATCGGATTTCTCT
Tnfsf10	Forward	ATGGTGATTTGCATAGTGCTCC	*TNFSF10*	Forward	TGCGTGCTGATCGTGATCTTC
Tnfsf10	Reverse	GCAAGCAGGGTCTGTTCAAGA	*TNFSF10*	Reverse	GCTCGTTGGTAAAGTACACGTA
Traf2	Forward	AGAGAGTAGTTCGGCCTTTCC	*TRAF2*	Forward	TCCCTGGAGTTGCTACAGC
Traf2	Reverse	GTGCATCCATCATTGGGACAG	*TRAF2*	Reverse	AGGCGGAGCACAGGTACTT
Trim28	Forward	CCCTGTCTACATTCGGCCTG	*TRIM28*	Forward	TTTCATGCGTGATAGTGGCAG
Trim28	Reverse	ACGATGTCTTTGGAGTAGCACT	*TRIM28*	Reverse	GCCTCTACACAGGTCTCACAC
Wnt1	Forward	CGACTGATCCGACAGAACCC	*WNT1*	Forward	GGTGGGGTATTGTGAACGTAG
Wnt1	Reverse	CCATTTGCACTCTCGCACA	*WNT1*	Reverse	CGTATCAGACGCCGCTGTTT
Wnt10a	Forward	CATGCTCGAATGAGACTCCAC	*WNT10A*	Forward	AAGCCTGGAGACTCGCAAC
Wnt10a	Reverse	CCCTACTGTGCGGAACTCAG	*WNT10A*	Reverse	CGATGGCGTAGGCAAAAGC
Wnt10b	Forward	ATCGCCGTTCACGAGTGTC	*WNT10B*	Forward	GTGAGCGAGACCCCACTATG
Wnt10b	Reverse	GGAAACCGCGCTTGAGGAT	*WNT10B*	Reverse	CACTCTGTAACCTTGCACTCATC
Wnt11	Forward	CAGCCTTCGTGTATGCCCTG	*WNT11*	Forward	GGAGTCGGCCTTCGTGTATG
Wnt11	Reverse	CCGTAGCTGAGGTTGTCCG	*WNT11*	Reverse	GCTGAGGTTGTCCGCACAT
Wnt2	Forward	CCTCCGAAGTAGTCGGGAATC	*WNT2*	Forward	GCCTTTGTTTATGCCATCTCCT
Wnt2	Reverse	GCAGGACTTTAATTCTCCTTGGC	*WNT2*	Reverse	CTTGGCGCTTCCCATCTTCTT
Wnt2b	Forward	GACACGTCCTGGTGGTACATA	*WNT2*	Reverse	GGGTGGTACAGTTCCAGCG
Wnt2b	Reverse	GTCTGGGTAGCGTTGACACA	*WNT2B*	Forward	GTTACCCAGACATCATGCGTT
Wnt3	Forward	TGGCTACCCAATTTGGTGGTC	*WNT3*	Forward	GGAGAGGGACCTGGTCTACTA
Wnt3	Reverse	CTTCACACCTTCTGCTACGCT	*WNT3*	Reverse	CTTGTGCCAAAGGAACCCGT
Wnt4	Forward	TGCGAGGTAAAGACGTGCTG	*WNT4*	Forward	CTCCACACTCGACTCCTTGC
Wnt4	Reverse	CTTGAACTGTGCATTCCGAGG	*WNT4*	Reverse	CCGAAGAGATGGCGTACACG
Wnt5a	Forward	GGACCACATGCAGTACATTGG	*WNT5A*	Forward	ATTCTTGGTGGTCGCTAGGTA
Wnt5a	Reverse	CGTCTCTCGGCTGCCTATTT	*WNT5A*	Reverse	CGCCTTCTCCGATGTACTGC
Wnt7b	Forward	CTTCACCTATGCCATCACGG	*WNT7B*	Forward	GAAGCAGGGCTACTACAACCA
Wnt7b	Reverse	TGGTTGTAGTAGCCTTGCTTCT	*WNT7B*	Reverse	CGGCCTCATTGTTATGCAGGT

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Supplementary Table 7. List of primer sets used for ChIP and mutagenesis

Target	Primer set	Forward Sequence (5'-->3')	Reverse sequence (5'-->3')
hCxcl11	1	TCTTTAGGAACTCATTTACAGGT	CCTTTCACCCACCCTTCAT
	2	TGTATAGATATGTGAAGGATGAAGGG	GATAAGAATGTGAAAGCACTGTGAA
	3	GCTGGTTACCATCTGGGTTT	GGCACAGGAATTTCCCTCTT
	4	GGAAAGGTGCATGACTRCAAAG	CAGCTTTGCTGCTCTTCTTG
hCxcl10	1	GAATGGATTGCAACCTTTGTT	ATTTCCCTCTGCTCCTCTTT
	2	AAAGAGGAGCAGAGGGAAAT	CTGATTGGATAAGGGCATTACAG
	3	AGTCAACTGTAATGCCCTTATCC	TGGAGGTTCCTCTGCTGTA
hMmp9	1	GGAAGGCATTTACTCCAGGTTA	CAAGGATACAGTGAGCCATGAT
	2	GCTGGAGTGCAGTGACATAA	CTAAAGCCAAGACCCAAGATT
	3	TTACAGGAATGAGCCACCATAC	TGTCCCTAAATTGATGTGAGGATTA
	4	CCTCACATCAATTTAGGGACAAAG	GCTGAATCTTCAGGGCAGTA
	5	TCTAGAGGCTGCTACTGTCC	CTCCCTGACAGCCTTCTTTG
	6	AGGGAGAGGAAGCTGAGT	CCTGAGACTTCTTTCTGAAACTAATG
	7	GGAGGATATCTGACCTGGGA	GTGGGAACTGTATGAAAGGGA
	8	CTGACCACTGGAGGCTTTC	CAGTCTCCACTGCCAAGTC
	9	GGTTTCCTGCGGGTCTG	TGTGTGTGTGTGTGTGTGT
	10	GTGGTGTAAGCCCTTTCTCA	TGAGGGCAGAGGTGTCT
hCcl19	1	AGGGCAATCCCTCTCTCT	CCCTTTCCTTCTGCTTTCCT
	2	AGAGCAGGAGCCAAGGA	GCCAGAGCTTCACTTTCTCTT
	3	TCACAGAATGGGACATGAAGG	GAAATGCAAGGTGTGAGTGATG
	4	CATCACTCACACCTTGCATTTC	AACAGAGGCAGGCCAAC
hGAPDH	1	TGAGCAGTCCGGTGTCACTA	GGACTTTGGGAACGACTGAGATG
	2	AACTTTCCCGCCTCTCA	CAGGACACTAGGGAGTCAAG
	3	TCCTTGACTCCCTAGTGTCCTG	TAGTAGCCGGGCCCTACTTT
	4	ATCGGGCCAATCTCAGT	TCTTGAGGCCTGAGCTA
K17 Lys399Ala mutagenesis		ACTCAGTACGCGAAAGAACC	CAGGTGGGCATCCTCTC