

Additional Table 5 KEGG pathway enrichment in ISP vs. RIP group

#Term	ID	Input number	Background	P-Value	Corrected P-Value	Input	KO	Entrez_ID	KO_name	Hyperlink
Protein processing in endoplasmic reticulum	rno04141	14	169	0.0029324	0.6509838	ENSRNO	rno:297961	297961 36	Ube2j1 Os	http://www
						G0000000	rno:36289	2891 8527	9, Os-	.genome.jp
						7434 ENS	1 rno:8527	3 360734 5	9 Fbxo2 Dn	/kegg-
						RNOG000	3 rno:3607	8842 2871	ajb11,	bin/show_p
						00025570	34 rno:588	55 362356	LRRGT00	athway?rno
						ENSRNO	42 rno:287	311786 11	084 Preb St	04141/rno:
						G0000000	155 rno:36	6598 2561	ub1,	24468%09
						9409 ENS	2356 rno:3	7 500972 1	Chip Cul1	red/rno:85
						RNOG000	11786 rno:	71562 244	Traf2 Pdia	273%09red
						00001803	116598 rno	68 192351	4, ERp-72,	/rno:28715
						ENSRNO	:25617 rno:		Erp70,	5%09red/r
						G0000000	500972 rno		Erp72 Hsp	no:311786
						7141 ENS	:171562 rn		a5, BIP,	%09red/rn
						RNOG000	o:24468 rn		GRP78 Stt	o:360734%
						00019798	o:192351		3a, Itm1,	09red/rno:
						ENSRNO			RGD15657	171562%0
						G0000000			93 Ero11 H	9red/rno:3
						5310 ENS			spa8,	62356%09
						RNOG000			Hsc70 Fbx	red/rno:25
						00006238			o6, Fbg2,	617%09red
ENSRNO			Fbxo6b	/rno:29796						
G0000000				1%09red/r						
6228 ENS				no:192351						
RNOG000				%09red/rn						
00018294				o:500972%						
ENSRNO				09red/rno:						
G0000003				116598%0						
1896 ENS				9red/rno:3						
African trypanosomiasis	rno05143	5	36	0.0105464	0.8708797	ENSRNO	rno:287167	287167 85	GloA Plcb	http://www
						G0000004	rno:85240	240 36050	2 Hba2 F2r	.genome.jp
						5989 ENS	rno:360504	4 116677 2	11, Par-2,	/kegg-
						RNOG000	rno:11667	5632	Par2 Hba1,	bin/show_p
						00058337	7 rno:2563		HBAM,	athway?rno
						ENSRNO	2		Hba-a1,	05143/rno:
						G0000004			Hba-a2	25632%09
						7321 ENS				red/rno:85
						RNOG000				240%09red
						00018003				/rno:28716
ENSRNO				7%09red/r						
G0000002				no:116677						
9886				%09red/rn						
Complement and coagulation cascades	rno04610	7	72	0.0149249	0.8708797	ENSRNO	rno:287527	287527 25	Serpinf2 F	http://www
						G0000000	rno:25584	584 64459	3 Masp2,	.genome.jp
						3233 ENS	rno:64459	289055 29	MASP-2,	/kegg-
						RNOG000	rno:289055	6545 3049	MAp19 F1	bin/show_p
						00011800	rno:29654	17 29436	3b C8g Ser	athway?rno
						ENSRNO	5 rno:3049		pinc1 Tfpi	04610/rno:
						G0000001	17 rno:294			25584%09
						1258 ENS	36			red/rno:29
						RNOG000				436%09red
						00012613				/rno:29654
ENSRNO				5%09red/r						
G0000002				no:304917						
8701 ENS				%09red/rn						
RNOG000				o:287527%						
00002783				09red/rno:						
ENSRNO				289055%0						
G0000000				9red/rno:6						

Oocyte meiosis	rno04114	9	109	0.0156915	0.8708797	ENSRNO	rno:25578	25578 560	Ywhaz, 14-	http://www
						G0000000	rno:56010	10 362356	3-	.genome.jp
						8195 ENS	rno:362356	313702 25	3z Ywhag,	/kegg-
						RNOG000	rno:31370	577 19220	14-3-	bin/show_p
						00001436	2 rno:2557	9 361389 2	3G Cul1 M	athway?rno
						ENSRNO	7 rno:1922	5594 3153	ad2 2 Ywh	04114/rno:
						G0000000	09 rno:361	30	aq, 14-3-	315330%0
						5310 ENS	389 rno:25		3t Spdya,	9red/rno:3
						RNOG000	594 rno:31		Gs4,	13702%09
						00009134	5330		Lm23,	red/rno:25
						ENSRNO			Spdy1,	594%09red
						G0000005			Spy1 Anap	/rno:36138
						1650 ENS			c10 Ppp1c	9%09red/r
						RNOG000			b Esp1	no:362356
						00004534				%09red/rn
						ENSRNO				o:56010%0
						G0000001				9red/rno:2
						8296 ENS				5577%09re
						RNOG000				d/rno:1922
						00004612				09%09red/
Epstein- Barr virus infection	rno05169	14	229	0.0300689	0.931031	ENSRNO	rno:24471	24471 254	Hspb1,	http://www
						G0000002	rno:25406	06 25578 5	Hsp25,	.genome.jp
						3546 ENS	rno:25578	6010 8167	Hsp27 Cd4	/kegg-
						RNOG000	rno:56010	3 25577 31	4, CD44A,	bin/show_p
						00006094	rno:81673	1786 3033	METAA,	athway?rno
						ENSRNO	rno:25577	53 170911	RHAMM	05169/rno:
						G0000000	rno:311786	296634 28	Ywhaz, 14-	24468%09
						8195 ENS	rno:30335	9990 2974	3-	red/rno:25
						RNOG000	3 rno:1709	1 24468 29	3z Ywhag,	578%09red
						00001436	11 rno:296	9569	14-3-	/rno:30335
						ENSRNO	634 rno:28		3G Gtf2b Y	3%09red/r
						G0000001	9990 rno:2		whaq, 14-	no:25406%
						1135 ENS	9741 rno:2		3-	09red/rno:
						RNOG000	4468 rno:2		3t Traf2 Ps	299569%0
						00051650	99569		md11 Pik3	9red/rno:2
						ENSRNO			ca Nup214,	89990%09
						G0000000			RGD13049	red/rno:25
						6238 ENS			77 Psmc6 P	577%09red
						RNOG000			ik3r2 Hspa	/rno:29663
						00005538			8,	4%09red/r
ENSRNO			Hsc70 Aka	no:81673%						
G0000005			p8l	09red/rno:						
6371 ENS				56010%09						
RNOG000				red/rno:17						
00023393				0911%09re						
ENSRNO				d/rno:2447						
G0000000				1%09red/r						
7203 ENS				no:29741%						
Cell cycle	rno04110	9	127	0.0352807	0.931031	ENSRNO	rno:313304	313304 25	Stag2,	http://www
						G0000002	rno:25578	578 31533	RGD15620	.genome.jp
						9885 ENS	rno:315330	0 56010 36	42 Ywhaz,	/kegg-
						RNOG000	rno:56010	2356 3137	14-3-	bin/show_p
						00008195	rno:362356	02 94201 3	3z Esp1 Y	athway?rno
						ENSRNO	rno:31370	61389 255	whag, 14-	04110/rno:
						G0000001	2 rno:9420	77	3-	315330%0
						2835 ENS	1 rno:3613		3G Cul1 M	9red/rno:3
						RNOG000	89 rno:255		ad2 2 Cdk4	13702%09
						00001436	77		Anapc10	red/rno:31
						ENSRNO			Ywhaq,	3304%09re
						G0000000			14-3-3t	d/rno:3613
						5310 ENS				89%09red/
						RNOG000				rno:362356
						00009134				%09red/rn
						ENSRNO				o:94201%0
						G0000002				9red/rno:5
						5602 ENS				6010%09re
						RNOG000				d/rno:2557
						00018296				7%09red/r

Lysosome	rno04142	9	127	0.0352807	0.931031	ENSRNO	rno:83800	83800 792	Clta,	http://www
						G0000001	rno:79248	48 293650	LCA1,	.genome.jp
						4635 ENS	rno:293650	25524 296	LCA2,	/kegg-
						RNOG000	rno:25524	981 25715	LCA3 Abc	bin/show_p
						00014268	rno:296981	310746 30	a2,	athway?rno
						ENSRNO	rno:25715	8909 6057	Abc2 Tcird	04142/rno:
						G0000001	rno:310746	5	1, OC116,	308909%0
						7220 ENS	rno:30890		TIRC7 Psa	9red/rno:7
						RNOG000	9 rno:6057		p, SGP-1,	9248%09re
						00000571	5		SGP1A At	d/rno:6057
						ENSRNO			p6v0a4 Slc	5%09red/r
						G0000001			11a2,	no:293650
						3428 ENS			Dmt1,	%09red/rn
						RNOG000			Nramp2 A	o:25715%0
						00019550			p4b1 Smpd	9red/rno:2
						ENSRNO			1 Napsa,	96981%09
						G0000001			Kdap	red/rno:25
						9455 ENS				524%09red
						RNOG000				/rno:31074
Spliceosome	rno03040	9	140	0.0570494	0.931031	ENSRNO	rno:687711	687711 30	Snrpd3 Aci	http://www
						G0000005	rno:30588	5884 2906	n1 Lsm4 S	.genome.jp
						0410 ENS	4 rno:2906	47 296126	nrnp200,	/kegg-
						RNOG000	47 rno:296	297336 68	Ascc311,	bin/show_p
						00013533	126 rno:29	0309 2875	U5-	athway?rno
						ENSRNO	7336 rno:6	30 24468 2	200KD Us	03040/rno:
						G0000001	80309 rno:	91797	p39 Snrpd2	24468%09
						9572 ENS	287530 rno		Prpf8 Hsp	red/rno:68
						RNOG000	:24468 rno:		a8,	0309%09re
						00012157	291797		Hsc70 Tho	d/rno:2973
						ENSRNO			c1,	36%09red/
						G0000001			LRRGT00	rno:291797
						0930 ENS			070	%09red/rn
						RNOG000				o:305884%
						00015844				09red/rno:
						ENSRNO				290647%0
						G0000000				9red/rno:2
						3495 ENS				96126%09
						RNOG000				red/rno:68
						00061099				7711%09re
Synaptic vesicle cycle	rno04721	5	63	0.0720769	0.931031	ENSRNO	rno:25012	25012 293	Snap25,	http://www
						G0000000	rno:293650	650 29698	SNAP-	.genome.jp
						6037 ENS	rno:29698	1 83800 25	25B,	/kegg-
						RNOG000	1 rno:8380	531	SNAP-	bin/show_p
						00017220	0 rno:2553		25a Tcird	athway?rno
						ENSRNO	1		OC116,	04721/rno:
						G0000001			TIRC7 Atp	25012%09
						3428 ENS			6v0a4 Clta,	red/rno:25
						RNOG000			LCA1,	531%09red
						00014635			LCA2,	/rno:29698
						ENSRNO			LCA3 Rab	1%09red/r
						G0000001			3a, RAB3	no:83800%
						9433				09red/rno:

cGMP- PKG signaling pathway	rno04022	10	171	0.0752019	0.931031	ENSRNO	rno:310616	310616 31	Creb3l4,	http://www
						G0000002	rno:31030	0303 3088	AlbZIP Kc	.genome.jp
						3493 ENS	3 rno:3088	99 24174 1	nmb3 Mrvi	/kegg-
						RNOG000	99 rno:241	70911 817	1 Adra2b P	bin/show_p
						00027836	74 rno:170	62 25594 2	ik3ca Rock	athway?rno
						ENSRNO	911 rno:81	9741 8524	1,	04022/rno:
						G0000001	762 rno:25	0 29600	P160Rock,	29600%09
						7767 ENS	594 rno:29		ROCK-	red/rno:31
						RNOG000	741 rno:85		I Ppp1cb Pi	0616%09re
						00013887	240 rno:29		k3r2 Plcb2	d/rno:3088
						ENSRNO	600		Atp2b4,	99%09red/
						G0000005			PMCA4	rno:25594
						6371 ENS				%09red/rn
RNOG000				o:310303%						
00031092				09red/rno:						
ENSRNO				29741%09						
G0000000				red/rno:24						
4612 ENS				174%09red						
RNOG000				/rno:17091						
00019228				1%09red/r						
ENSRNO				no:85240%						
mTOR signaling pathway	rno04150	5	64	0.0757199	0.931031	ENSRNO	rno:29741	29741 567	Pik3r2 Mto	http://www
						G0000001	rno:56718	18 170911	r, Frap1,	.genome.jp
						9228 ENS	rno:170911	297960 30	RAFT1 Pik	/kegg-
						RNOG000	rno:29796	0253	3ca Rragd	bin/show_p
						00009615	0 rno:3002		Eif4b	athway?rno
						ENSRNO	53			04150/rno:
						G0000005				297960%0
						6371 ENS				9red/rno:5
						RNOG000				6718%09re
						00007331				d/rno:1709
						ENSRNO				11%09red/
						G0000001				rno:300253
						0103				%09red/rn
				o:29741%0						
Proteasom e	rno03050	4	49	0.0953179	0.931031	ENSRNO	rno:290206	290206 30	Psmb11,	http://www
						G0000004	rno:30335	3353 2899	RGD13087	.genome.jp
						7091 ENS	3 rno:2899	90 29425	73 Psmd11	/kegg-
						RNOG000	90 rno:294		Psmc6 Psm	bin/show_p
						00005538	25		b5	athway?rno
						ENSRNO				03050/rno:
						G0000000				303353%0
						7203 ENS				9red/rno:2
						RNOG000				90206%09
						00013386				red/rno:29
										425%09red
										/rno:28999
						Hippo signaling pathway	rno04390	9	157	0.0964242
G0000000	rno:56010	010 25594	RGD15603	.genome.jp						
4834 ENS	rno:25594	25577 266	07 Ywhag,	/kegg-						
RNOG000	rno:25577	715 30482	14-3-	bin/show_p						
00001436	rno:266715	5 361552 2	3G Ppp1cb	athway?rno						
ENSRNO	rno:30482	5578 8526	Ywhaq,	04390/rno:						
G0000000	5 rno:3615	5	14-3-	25578%09						
4612 ENS	52 rno:255		3t Fzd3 Cr	red/rno:36						
RNOG000	78 rno:852		b1 Wtip,	0661%09re						
00051650	65		RGD13064	d/rno:2559						
ENSRNO			11 Ywhaz,	4%09red/r						
G0000004			14-3-	no:266715						
7211 ENS			3z Ajuba,	%09red/rn						
RNOG000			Jub	o:25577%0						
00010903				9red/rno:5						
ENSRNO				6010%09re						
G0000002				d/rno:3615						
3296 ENS				52%09red/						
RNOG000				rno:85265						

Ubiquitin mediated proteolysis	rno04120	8	135	0.0986331	0.931031	ENSRNO G0000000 7434 ENS RNOG000 00009409 ENSRNO G0000002 1113 ENS RNOG000 00019798 ENSRNO G0000000 5310 ENS RNOG000 00061040 ENSRNO G0000001 8296 ENS	rno:297961 297961 85 rno:85273 273 30850 rno:308508 8 287155 3 rno:28715 62356 309 5 rno:3623 758 36138 56 rno:309 9 63879 758 rno:36 1389 rno:6 3879	Ube2j1 Fbxo2 Uba2, Sae2, Ubl1b Stu b1, Chip Cul1 Herc4 Anapc10 Xiap, Api3, Birc4, riap3	http://www .genome.jp /kegg- bin/show_p athway?rno 04120/rno: 85273%09 red/rno:28 7155%09re d/rno:3613 89%09red/ rno:309758 %09red/rn o:362356% 09red/rno: 297961%0 9red/rno:6 3879%09re
beta-Alanine metabolism	rno00410	3	32	0.1060887	0.931031	ENSRNO G0000001 7512 ENS RNOG000 00038258 ENSRNO G0000001 1078	rno:309147 309147 11 rno:11659 6593 8459 3 rno:8459 6	Aldh3b1 U pb1, Bup1 Srm	http://www .genome.jp /kegg- bin/show_p athway?rno 00410/rno: 116593%0 9red/rno:8 4596%09re d/rno:3091
Viral carcinogenesis	rno05203	12	234	0.1117822	0.931031	ENSRNO G0000001 1909 ENS RNOG000 00023493 ENSRNO G0000000 1436 ENS RNOG000 00011135 ENSRNO G0000005 1650 ENS RNOG000 00006238 ENSRNO G0000005 6371 ENS RNOG000 00025602 ENSRNO G0000001 9264 ENS RNOG000	rno:25597 25597 310 rno:310616 616 56010 rno:56010 81673 255 rno:81673 77 311786 rno:25577 170911 94 rno:311786 201 29760 rno:17091 4 25578 29 1 rno:9420 741 29115 1 rno:2976 7 04 rno:255 78 rno:297 41 rno:291 157	Rasa2, GAP1M Crb314, AibZIP Y whag, 14- 3- 3G Gtf2b Y whaq, 14- 3- 3t Traf2 Pik3ca Cdk4 Ltbr Ywhaz, 14-3- 3z Pik3r2 Hist1h2bo, Hist1h2bm , Hist1h2bn	http://www .genome.jp /kegg- bin/show_p athway?rno 05203/rno: 25578%09 red/rno:25 597%09red /rno:31061 6%09red/r no:291157 %09red/rn o:25577%0 9red/rno:2 97604%09 red/rno:94 201%09red /rno:81673 %09red/rn o:56010%0 9red/rno:1 70911%09 red/rno:29
SNARE interactions in vesicular transport	rno04130	3	33	0.1130606	0.931031	ENSRNO G0000001 9219 ENS RNOG000 00012748 ENSRNO G0000001 2659	rno:25624 25624 837 rno:83730 30 89818 rno:89818	Vamp1, Syb1 Vamp8 Vamp5	http://www .genome.jp /kegg- bin/show_p athway?rno 04130/rno: 89818%09 red/rno:25 624%09red /rno:83730

RNA transport	rno03013	9	166	0.1223668	0.931031	ENSRNO G0000002 4560 ENS RNOG000 00055790 ENSRNO G0000001 3533 ENS RNOG000 00013445 ENSRNO G0000002 3393 ENS RNOG000 00017158 ENSRNO G0000001 0103 ENS RNOG000 00015332	rno:25497 25497 365 rno:365844 844 30588 4 300259 2 4 rno:3002 96634 361 59 rno:296 628 30025 634 rno:36 3 291797 3 1628 rno:3 64382 00253 rno: 291797 rno :364382	25497 365 844 30588 4 300259 2 96634 361 628 30025 3 291797 3 64382	Npap60, Nup50, Rtp60 Nup 210l, RGD13102 50 Acin1 A 03013/rno: 365844%0 4, 9red/rno:3 RGD13049 77 Eif4g2 red/rno:30 Eif4b Thoc 5884%09re 1, d/rno:2549 LRRGT00 7%09red/r 070 Prmt5, no:364382 Skb1 %09red/rn o:300253% 09red/rno: 296634%0 9red/rno:2 91797%09	http://www .genome.jp /kegg- bin/show_p athway?rno 03013/rno: 365844%0 4, 9red/rno:3 RGD13049 77 Eif4g2 red/rno:30 Eif4b Thoc 5884%09re d/rno:2549 LRRGT00 7%09red/r no:364382 %09red/rn o:300253% 09red/rno: 296634%0 9red/rno:2 91797%09
Malaria	rno05144	4	56	0.1335353	0.931031	ENSRNO G0000004 5989 ENS RNOG000 00025053 ENSRNO G0000002 9886 ENS RNOG000 00047321	rno:287167 287167 29 rno:29985 9858 2563 8 rno:2563 2 360504 2 rno:3605 04	287167 29 9858 2563 2 360504	GloA Lrp1 Hba1, HBAM, Hba-a1, Hba- a2 Hba2	http://www .genome.jp /kegg- bin/show_p athway?rno 05144/rno: 25632%09 red/rno:29 9858%09re d/rno:2871 67%09red/ rno:360504
Non-small cell lung cancer	rno05223	4	56	0.1335353	0.931031	ENSRNO G0000005 6371 ENS RNOG000 00019228 ENSRNO G0000003 0294 ENS RNOG000 00025602	rno:170911 170911 29 rno:29741 741 31386 6371 ENS rno:313861 1 94201 rno:94201	170911 29 741 31386 1 94201	Pik3ca Pik 3r2 Eml4 C dk4	http://www .genome.jp /kegg- bin/show_p athway?rno 05223/rno: 94201%09 red/rno:31 3861%09re d/rno:1709 11%09red/ rno:29741
Vascular smooth muscle contraction	rno04270	7	123	0.1355776	0.931031	ENSRNO G0000002 7836 ENS RNOG000 00017767 ENSRNO G0000002 9401 ENS RNOG000 00053766 ENSRNO G0000003 1092 ENS RNOG000 00004612 ENSRNO	rno:310303 310303 30 rno:30889 8899 2536 9 rno:2536 5 56820 81 5 rno:5682 762 25594 0 rno:8176 85240 2 rno:2559 4 rno:8524 0	310303 30 8899 2536 5 56820 81 762 25594 85240	Kenmb3 M rvi1 Actg2, ACTGE, SMGA Ra mp3 Rock1 , P160Rock, ROCK- I Ppp1cb P1 cb2	http://www .genome.jp /kegg- bin/show_p athway?rno 04270/rno: 56820%09 red/rno:30 8899%09re d/rno:2559 4%09red/r no:310303 %09red/rn o:85240%0 9red/rno:8 1762%09re
DNA replication	rno03030	3	38	0.1502991	0.931031	ENSRNO G0000001 9681 ENS RNOG000 00003123 ENSRNO G0000002 0906	rno:59294 59294 287 rno:287524 524 85242 rno:85242	59294 287 524 85242	Pold1 Rpa 1, Cb1- 727 Pola2	http://www .genome.jp /kegg- bin/show_p athway?rno 03030/rno: 287524%0 9red/rno:5 9294%09re d/rno:8524

Salmonella infection	rno05132	5	81	0.1517539	0.931031	ENSRNO G0000001 1317 ENS RNOG000 00003784 ENSRNO G0000001 9657 ENS RNOG000 00031092 ENSRNO G0000000 9781	rno:207122 rno:28753 1 rno:1714 36 81762 1 36 rno:817 62 rno:116 659	207122 28 7531 1714 36 81762 1 16659	Pkn2, Pak- 2, Prkcl2 Rilp Mk1 Rock 1, P160Rock, ROCK- I Dync1i2, Dnci2, Dncic2	http://www .genome.jp /kegg- bin/show_p athway?rno 05132/rno: 81762%09 red/rno:17 1436%09re d/rno:2071 22%09red/ rno:116659 %09red/rn o:287531%
Alzheimer's disease	rno05010	10	200	0.1534169	0.931031	ENSRNO G0000001 7446 ENS RNOG000 00060694 ENSRNO G0000001 8020 ENS RNOG000 00000574 ENSRNO G0000002 5053 ENS RNOG000 00004526 ENSRNO G0000002 1685 ENS RNOG000 00031851 ENSRNO	rno:293652 rno:57027 rno:29722 rno:94194 rno:299858 2 116671 1 rno:29876 00362331 2 rno:1166 85240 256 71 rno:100 25 362331 rno :85240 rno: 25625	293652 57 027 29722 94194 299 858 29876 2 116671 1 00362331 85240 256 25	Ndufs8 Ad am17, TACE Apb b1, FE65 Cox5 b Lrp1 Cox 7a2 Cdk5r 1, Cdk5r, p35 Ndufa 4 2 Plcb2 T nfrsf1a, TNFR-1, Tnfr1	http://www .genome.jp /kegg- bin/show_p athway?rno 05010/rno: 57027%09 red/rno:11 6671%09re d/rno:2936 52%09red/ rno:85240 %09red/rn o:29722%0 9red/rno:2 99858%09 red/rno:10 0362331% 09red/rno: 25625%09 red/rno:94
Proteoglycans in cancer	rno05205	10	202	0.1599385	0.931031	ENSRNO G0000000 6094 ENS RNOG000 00018241 ENSRNO G0000000 4612 ENS RNOG000 00031092 ENSRNO G0000005 6371 ENS RNOG000 00047211 ENSRNO G0000000 5642 ENS RNOG000 00019228 ENSRNO	rno:25406 rno:306570 570 25594 rno:25594 81762 170 911 26671 5 314850 2 rno:26671 9741 5671 5 rno:3148 8 300253 50 rno:297 41 rno:567 18 rno:300 253	25406 306 570 25594 81762 170 911 26671 5 314850 2 9741 5671 8 300253	Cd44, CD44A, METAA, RHAMM Ank1 Ppp1 cb Rock1, P160Rock, ROCK- I Pik3ca Fz d3 Frs2 Pik 3r2 Mtor, Frap1, RAFT1 Eif 4b	http://www .genome.jp /kegg- bin/show_p athway?rno 05205/rno: 25406%09 red/rno:25 594%09red /rno:30657 0%09red/r no:300253 %09red/rn o:56718%0 9red/rno:1 70911%09 red/rno:29 741%09red /rno:81762 %09red/rn o:314850%
Steroid biosynthesis	rno00100	2	20	0.1613939	0.931031	ENSRNO G0000004 6214 ENS RNOG000 00053769	rno:114700 rno:26677 6770 0	114700 26 6770	Cyp27b1, Cyp40 Soat 2, Acat-2	http://www .genome.jp /kegg- bin/show_p athway?rno 00100/rno: 26677%0 9red/rno:1 14700%09

Ribosome	rno03010	9	178	0.1621698	0.931031	ENSRNO G0000003 1244 ENS RNOG000 00019974 ENSRNO G0000001 6387 ENS RNOG000 00048003 ENSRNO G0000003 3152 ENS RNOG000 00016961 ENSRNO G0000003 1641 ENS	rno:296596 rno:64156 rno:362041 rno:79449 rno:294282 rno:94266 rno:57809 rno:79449 rno:497876 	296596 64 156 36204 1 79449 29 4282 9426 6 57809 79 449 49787 6	Rpl7a Uba 52, Rps27a, Ubb Rp134, Rpl34 2 Rp 121 Rps18, Ke3 Rps27 Rpl35a Rpl 21 Mrpl28	http://www .genome.jp /kegg- bin/show_p athway?rno 03010/rno: 296596%0 9red/rno:7 9449%09re d/rno:9426 6%09red/r no:57809% 09red/rno: 497876%0 9red/rno:6 4156%09re d/rno:2942 82%09red/
AMPK signaling pathway	rno04152	7	130	0.1638708	0.931031	ENSRNO G0000000 2180 ENS RNOG000 00023493 ENSRNO G0000005 1592 ENS RNOG000 00056337 ENSRNO G0000005 6371 ENS RNOG000 00019228 ENSRNO G0000000	rno:360937 rno:31061 6 rno:3097 57 rno:310 170911 29 615 rno:17 741 56718 0911 rno:2 9741 rno:5 6718	360937 31 0616 3097 57 310615 170911 29 741 56718 rno:2 rno:5	Tbc1d1 Cr eb314, A1bZIP Sir t1, Sir2 Crtc2, RGD13089 03, Torc2 Pik3 ca Pik3r2 Mtor, Frap1, RAFT1	http://www .genome.jp /kegg- bin/show_p athway?rno 04152/rno: 309757%0 9red/rno:3 10615%09 red/rno:31 0616%09re d/rno:3609 37%09red/ rno:170911 %09red/rn o:56718%0 9red/rno:2
Nicotine addiction	rno05033	3	40	0.1661632	0.931031	ENSRNO G0000000 7603 ENS RNOG000 00007490 ENSRNO G0000000 2327	rno:29694 rno:29695 rno:25450	29694 296 95 25450	Gabbr1 Ga brr2 Gabbr 1, GARB1	http://www .genome.jp /kegg- bin/show_p athway?rno 05033/rno: 29694%09 red/rno:29 695%09red /rno:25450
Cysteine and methionine metabolism	rno00270	3	40	0.1661632	0.931031	ENSRNO G0000001 1078 ENS RNOG000 00001440 ENSRNO G0000001 3520	rno:84596 rno:81829 rno:171347 	84596 818 29 171347	Srm Mdh2, Mor1 Mat2 a, Sams2	http://www .genome.jp /kegg- bin/show_p athway?rno 00270/rno: 84596%09 red/rno:17 1347%09re d/rno:8182
Apoptosis	rno04210	5	85	0.1730774	0.931031	ENSRNO G0000000 6238 ENS RNOG000 00019228 ENSRNO G0000005 6371 ENS RNOG000 00031312 ENSRNO G0000000 6967	rno:311786 rno:29741 rno:170911 rno:25625 rno:63879	311786 29 741 17091 1 25625 63 879	Traf2 Pik3r 2 Pik3ca T nfrs1a, TNFR-1, Tnfr1 Xiap , Api3, Birc4, riap3	http://www .genome.jp /kegg- bin/show_p athway?rno 04210/rno: 29741%09 red/rno:25 625%09red /rno:31178 6%09red/r no:170911 %09red/rn

PI3K-Akt signaling pathway	rno04151	15	340	0.191153	0.931031	ENSRNO G0000001 1317 ENS RNOG000 00008195 ENSRNO G0000001 2208 ENS RNOG000 00023493 ENSRNO G0000000 1436 ENS RNOG000 00005580 ENSRNO G0000001 7348 ENS RNOG000 00056337 ENSRNO G0000005 1650 ENS RNOG000 00013309 ENSRNO G0000005 6371 ENS RNOG000 00025602	rno:207122 207122 25 rno:25578 578 25713 rno:25713 310616 56 rno:310616 010 25724 rno:56010 116562 31 rno:25724 0615 2557 rno:116562 7 294048 1 rno:31061 70911 942 5 rno:2557 01 29741 5 7 rno:2940 6718 3002 48 rno:170 53 911 rno:94 201 rno:29 741 rno:56 718 rno:30 0253	Pkn2, Pak-2, Prkcl2 Yw haz, 14-3-3z Itgb7 Cr eb314, A1bZIP Y whag, 14-3- 3G Itgb4 I 2 Crtc2, RGD13089 03, Torc2 Ywh aq, 14-3- 3t Pik3ap1 Pik3ca Cdk 4 Pik3r2 M tor, Frap1, RAFT1 Eif 4b	http://www .genome.jp /kegg- bin/show_p athway?rno 04151/rno: 25724%09 red/rno:25 578%09red /rno:17091 1%09red/r no:310616 %09red/rn o:294048% 09red/rno: 207122%0 9red/rno:3 00253%09 red/rno:94 201%09red /rno:56718 %09red/rn o:56010%0 9red/rno:2 5577%09re d/rno:2974 1%09red/r no:25713% 09red/rno: 116562%0
Small cell lung cancer	rno05222	5	89	0.1954699	0.931031	ENSRNO G0000000 6238 ENS RNOG000 00019228 ENSRNO G0000005 6371 ENS RNOG000 00025602 ENSRNO G0000000 6967	rno:311786 311786 29 rno:29741 741 17091 rno:170911 1 94201 63 rno:94201 879 rno:63879	Traf2 Pik3r 2 Pik3ca C dk4 Xiap, Api3, Birc4, riap3	http://www .genome.jp /kegg- bin/show_p athway?rno 05222/rno: 94201%09 red/rno:29 741%09red /rno:31178 6%09red/r no:170911 %09red/rn
Inflammatory mediator regulation of TRP channels	rno04750	6	113	0.1961946	0.931031	ENSRNO G0000005 6371 ENS RNOG000 00004612 ENSRNO G0000000 1195 ENS RNOG000 00019228 ENSRNO G0000005 8337 ENS RNOG000 00018003	rno:170911 170911 25 rno:25594 594 66026 rno:66026 29741 852 rno:29741 40 116677 rno:85240 rno:116677	Pik3ca Ppp 1cb Trpv4, Otrpc4, Vroac Pik3 r2 Plcb2 F2 r11, Par-2, Par2	http://www .genome.jp /kegg- bin/show_p athway?rno 04750/rno: 25594%09 red/rno:66 026%09red /rno:85240 %09red/rn o:170911% 09red/rno: 29741%09 red/rno:11
Inositol phosphate metabolism	rno00562	4	66	0.1968067	0.931031	ENSRNO G0000001 5158 ENS RNOG000 00058337 ENSRNO G0000005 6371 ENS RNOG000 00019741	rno:316457 316457 85 rno:85240 240 17091 rno:170911 1 290651 rno:29065 1	Pikfyve, Pip5k3 Plc b2 Pik3ca I syna1	http://www .genome.jp /kegg- bin/show_p athway?rno 00562/rno: 85240%09 red/rno:29 0651%09re d/rno:1709 11%09red/ rno:316457

Mismatch repair	rno03430	2	23	0.1969847	0.931031	ENSRNO G0000001 9681 ENSRNOG00000003123	rno:59294 59294 287 rno:287524 524	Pold1 Rpa1, Cb1-727	http://www.genome.jp/kegg-bin/show_pathway?rno03430/rno:287524%09red/rno:59294%09re
Intestinal immune network for IgA production	rno04672	3	45	0.2077193	0.931031	ENSRNO G0000001 9264 ENSRNOG00000017348 ENSRNO G0000001 2208	rno:297604 297604 11 rno:11656 6562 2571 2 rno:2571 3	Ltbr Ii2 Itgb7	http://www.genome.jp/kegg-bin/show_pathway?rno04672/rno:297604%09red/rno:116562%09red/rno:25713%09red
ABC transporters	rno02010	3	46	0.2162972	0.931031	ENSRNO G0000001 1929 ENSRNOG00000014268 ENSRNO G0000001 5538	rno:25270 25270 792 rno:79248 48 84356 rno:84356	Abcd3, PMP70, Pxmp1 Abca2, Abc2 Abcd2, ALDR	http://www.genome.jp/kegg-bin/show_pathway?rno02010/rno:79248%09red/rno:25270%09red/rno:84356
Thyroid hormone synthesis	rno04918	4	69	0.2173355	0.931031	ENSRNO G0000001 8294 ENSRNOG00000006228 ENSRNO G0000005 8337 ENSRNOG00000023493	rno:25617 25617 116 rno:116598 598 85240 rno:85240 310616 rno:310616	Hspa5, BIP, GRP78 Pdia4, ERp72, Erp70, Erp72 P1cb2 Creb314, A1bZIP	http://www.genome.jp/kegg-bin/show_pathway?rno04918/rno:85240%09red/rno:116598%09red/rno:310616%09red/rno:25617
Glyoxylate and dicarboxylate metabolism	rno00630	2	25	0.2212012	0.931031	ENSRNO G0000000 1440 ENSRNOG00000008106	rno:81829 81829 299 rno:299857 857	Mdh2, Mor1 Shmt2	http://www.genome.jp/kegg-bin/show_pathway?rno00630/rno:81829%09red/rno:299857%09re
Regulation of actin cytoskeleton	rno04810	10	220	0.2242882	0.931031	ENSRNO G0000001 2208 ENSRNOG00000005580 ENSRNO G0000000 7925 ENSRNOG00000019657 ENSRNO G0000002 0014 ENSRNOG000000056371 ENSRNO G0000003 1092 ENSRNOG00000004612 ENSRNO	rno:25713 25713 257 rno:25724 24 296078 rno:296078 171436 30 rno:17143 8572 1709 6 rno:3085 11 81762 2 72 rno:170 5594 3164 911 rno:81 57 29741 762 rno:25 594 rno:31 6457 rno:2 9741	Itgb7 Itgb4 Pak6 Mk1 Myh14 Pik3ca Rock1, P160Rock, ROCK-1 Ppp1cb Pikfyve, Pip5k3 Pik3r2	http://www.genome.jp/kegg-bin/show_pathway?rno04810/rno:25724%09red/rno:25594%09red/rno:170911%09red/rno:316457%09red/rno:296078%09red/rno:29741%09red/rno:81762%09red/rno:25713%09red

Amino sugar and nucleotide sugar metabolism	rno00520	3	47	0.2249476	0.931031	ENSRNO G0000002 3150 ENS RNOG000 00014365 ENSRNO G0000000 8641	rno:292804 292804 11 rno:11471 4711 4984 1 rno:4984 86 86	Gpi, Amf, Gpi1, Nlk, Pgi, Phi Gne, Uae1 Gnpr at1, RGD15631 44	http://www.genome.jp/kegg-bin/show_pathway?rno00520/rno:11471%09red/rno:292804%09red/rno:498486%09red
MicroRNAs in cancer	rno05206	7	144	0.2273016	0.931031	ENSRNO G0000000 6094 ENS RNOG000 00002412 ENSRNO G0000000 6048 ENS RNOG000 00047211 ENSRNO G0000000 9615 ENS RNOG000 00051592 ENSRNO G0000003	rno:25406 25406 114 rno:114509 509 31229 9 266715 5 9 rno:2667 6718 3097 15 rno:567 57 81762 18 rno:309 757 rno:81 762	Cd44, CD44A, META, RHAMM Mapk7, Bmk1, Erk5, Prkm7 Ezh2 Fzd3 Mtor, Frap1, RAFT1 Sir t1, Sir2 Rock1, P160Rock, ROCK-I	http://www.genome.jp/kegg-bin/show_pathway?rno05206/rno:25406%09red/rno:309757%09red/rno:114509%09red/rno:266715%09red/rno:81762%09red
Maturity onset diabetes of the young	rno04950	2	26	0.2333997	0.931031	ENSRNO G0000004 6959 ENS RNOG000 00014256	rno:682076 682076 25 rno:25100 100	Mnx1, Hlxb9 Fox a3, Hnf3g	http://www.genome.jp/kegg-bin/show_pathway?rno04950/rno:25100%09red/rno:682076%09red
Glycosylation of phosphatidylinositol(GPI)-anchors biosynthesis	rno00563	2	26	0.2333997	0.931031	ENSRNO G0000002 0140 ENS RNOG000 00049895	rno:287159 287159 10 rno:10091 0910143 0143	Pigq	http://www.genome.jp/kegg-bin/show_pathway?rno00563/rno:287159%09red/rno:100910143
mRNA surveillance pathway	rno03015	5	96	0.2368291	0.931031	ENSRNO G0000005 2418 ENS RNOG000 00013533 ENSRNO G0000001 4353 ENS RNOG000 00012089 ENSRNO G0000000 4612	rno:298916 298916 30 rno:30588 5884 2926 4 rno:2926 83 362178 83 rno:362 25594 178 rno:25 594	Cpsf3 Acin 1 Sympk, Hfn3g Cstf 3 Ppp1cb	http://www.genome.jp/kegg-bin/show_pathway?rno03015/rno:362178%09red/rno:305884%09red/rno:292683%09red/rno:298916%09red

Estrogen signaling pathway	rno04915	5	97	0.2429289	0.931031	ENSRNO G0000005 6371 ENSRNOG00000019228 ENSRNO G0000006 1099 ENSRNOG00000058337 ENSRNO G0000002 3493	rno:170911 170911 29 rno:29741 741 24468 rno:24468 85240 310 rno:85240 616 rno:310616	Pik3ca Pik3r2 Hspa8, Hsc70 Plcb2 Creb314, AlbZIP	http://www.genome.jp/kegg-bin/show_pathway?rno04915/rno:24468%09red/rno:85240%09red/rno:170911%09red/rno:310616%09red/rn
Collecting duct acid secretion	rno04966	2	27	0.245636	0.931031	ENSRNO G0000001 7220 ENSRNOG00000013428	rno:293650 293650 29 rno:296986981 1	Tcirg1, OC116, TIRC7 Atp6v0a4	http://www.genome.jp/kegg-bin/show_pathway?rno04966/rno:296981%09red/rno:293650%09
Homologous recombination	rno03440	2	27	0.245636	0.931031	ENSRNO G0000001 9681 ENSRNOG00000003123	rno:59294 59294 287 rno:287524524 	Pold1 Rpa1, Cb1-727	http://www.genome.jp/kegg-bin/show_pathway?rno03440/rno:287524%09red/rno:59294%09re
Endocrine and other factor-regulated calcium reabsorption	rno04961	3	50	0.2512656	0.931031	ENSRNO G0000001 4635 ENSRNOG000000058337 ENSRNO G0000003 2857	rno:83800 83800 852 rno:85240 40 24594 rno:24594	Clta, LCA1, LCA2, LCA3 Plcb2 Klk1, Klk1b3, Klk1c1, Ngfg, rGK-1, rK-1	http://www.genome.jp/kegg-bin/show_pathway?rno04961/rno:85240%09red/rno:24594%09red/rno:83800
Non-alcoholic fatty liver disease (NAFLD)	rno04932	8	175	0.2527999	0.931031	ENSRNO G0000001 7446 ENSRNOG00000004526 ENSRNO G0000000 0574 ENSRNOG00000006238 ENSRNO G0000005 6371 ENSRNOG000000019228 ENSRNO G0000003 1851 ENSRNOG0000000	rno:293652 293652 29 rno:298768762 9419 2 rno:94194 311786 1 4 rno:311770911 297 86 rno:17041 100362 911 rno:29331 25625 741 rno:100362331 rn o:25625	Ndufs8 Cox5b Traf2 Pik3ca Pik3r2 Ndufa4 Tnfrsf1a, TNFR-1, Tnfr1	http://www.genome.jp/kegg-bin/show_pathway?rno04932/rno:311786%09red/rno:293652%09red/rno:170911%09red/rno:100362331%09red/rno:25625%09red/rno:29741%09red/rno:94194%09red/rno:2
Taurine and hypotaurine metabolism	rno00430	1	8	0.259133	0.931031	ENSRNO G0000001 1573	rno:60356 60356	Csad	http://www.genome.jp/kegg-bin/show_pathway?rno00430/rno:60356%09

Type II diabetes mellitus	rno04930	3	51	0.2601388	0.931031	ENSRNO G0000001 9228 ENSRNO RNOG000 00009615 ENSRNO G0000005 6371	rno:29741 29741 567 rno:56718 18 170911 rno:170911	Pik3r2 Mtor, Frap1, RAFT1 Pik3ca	http://www.genome.jp/kegg-bin/show_pathway?rno04930/rno:56718%09red/rno:170911%09red/rno:29741
Chronic myeloid leukemia	rno05220	4	76	0.2671865	0.931031	ENSRNO G0000001 2645 ENSRNO RNOG000 00019228 ENSRNO G0000005 6371 ENSRNO RNOG000 00025602	rno:294924 294924 29 rno:29741 741 170911 rno:170911 1 94201 rno:94201	Mecom, Evi1, Mds1 Pik3r2 Pik3ca Cdk4	http://www.genome.jp/kegg-bin/show_pathway?rno05220/rno:94201%09red/rno:294924%09red/rno:170911%09red/rno:29741
MAPK signaling pathway	rno04010	11	260	0.2770924	0.931031	ENSRNO G0000002 3546 ENSRNO RNOG000 00019568 ENSRNO G0000001 1909 ENSRNO RNOG000 00013780 ENSRNO G0000000 2412 ENSRNO RNOG000 00036798 ENSRNO G0000001 2645 ENSRNO RNOG000 00006238 ENSRNO G0000001	rno:24471 24471 245 rno:24518 18 25597 2 rno:25597 4592 1145 rno:24592 09 498003 rno:114509 294924 31 rno:49800 1786 3114 rno:2949 06 24468 2 rno:311 5625 rno:31 786 rno:31 1406 rno:2 4468 rno:2 5625	Hspb1, Hsp25, Hsp27 Jun d Rasa2, GAP1M Nf1 Mapk7, Bmk1, Erk5, Prkm7 Dusp3, RGD15600 49 Mecom, Evi1, Mds1 Traf2 Dusp2 Hspa8, Hsc70 Tnfrsf1a, TNFR-1, Tnfr1	http://www.genome.jp/kegg-bin/show_pathway?rno04010/rno:24468%09red/rno:24592%09red/rno:498003%09red/rno:114509%09red/rno:311406%09red/rno:25625%09red/rno:3
Bacterial invasion of epithelial cells	rno05100	4	78	0.2818057	0.931031	ENSRNO G0000001 9228 ENSRNO RNOG000 00014635 ENSRNO G0000005 6371 ENSRNO RNOG000 00009134	rno:29741 29741 838 rno:83800 00 170911 rno:170911 313702 rno:31370 2	Pik3r2 Clta, LCA1, LCA2, LCA3 Pik3ca Mad2 I2	http://www.genome.jp/kegg-bin/show_pathway?rno05100/rno:313702%09red/rno:83800%09red/rno:170911%09red/rno:29741
Chagas disease (American trypanosomiasis)	rno05142	5	104	0.2866628	0.931031	ENSRNO G0000005 6371 ENSRNO RNOG000 00019228 ENSRNO G0000001 7348 ENSRNO RNOG000 00058337 ENSRNO G0000003 1312	rno:170911 170911 29 rno:29741 741 11656 2 85240 25 rno:116562 2 85240 25 rno:85240 625 rno:25625	Pik3ca Pik3r2 Ii2 Plcb2 Tnfrsf1a, TNFR-1, Tnfr1	http://www.genome.jp/kegg-bin/show_pathway?rno05142/rno:85240%09red/rno:116562%09red/rno:25625%09red/rno:170911%09red/rno:1312

Oxidative phosphorylation	rno00190	7	157	0.2924067	0.931031	ENSRNO G0000001 7446 ENS RNOG000 00017220 ENSRNO G0000001 3428 ENS RNOG000 00000574 ENSRNO G0000000 4526 ENS RNOG000 00031851 ENSRNO G0000000	rno:293652 rno:29365 293652 29 3650 2969 81 94194 2 98762 100 94 rno:298 362331 14 762 rno:10 0608 0362331 rn o:140608	Ndufs8 Tci rg1, OC116, TIRC7 Atp 6v0a4 Cox 5b Cox7a2l Ndufa4l2 Atp5i, Atp5k	http://www .genome.jp /kegg- bin/show_p athway?rno 00190/rno: 100362331 %09red/rn o:293652% 09red/rno: 293650%0 9red/rno:2 96981%09 red/rno:14 0608%09re d/rno:9419 4%09red/r
HTLV-I infection	rno05166	12	292	0.2962718	0.931031	ENSRNO G0000002 2421 ENS RNOG000 00019681 ENSRNO G0000001 7348 ENS RNOG000 00056337 ENSRNO G0000000 6967 ENS RNOG000 00056371 ENSRNO G0000002 5602 ENS RNOG000 00018296 ENSRNO G0000001 9264 ENS RNOG000	rno:684527 rno:59294 294 11656 rno:116562 2 310615 6 rno:31061 3879 1709 5 rno:6387 11 94201 3 9 rno:1709 61389 297 11 rno:942 604 29741 01 rno:361 25625 266 389 rno:29 715 7604 rno:2 9741 rno:2 5625 rno:2 66715	Crtc1, Mect1, TORC- 1 Pold1 Ii2 Crtc2, RGD13089 03, Torc2 Xiap , Api3, Birc4, riap3 Pik3c a Cdk4 Ana pc10 Ltr P ik3r2 Tnfrs f1a, TNFR-1, Tnfr1 Fzd3 	http://www .genome.jp /kegg- bin/show_p athway?rno 05166/rno: 310615%0 9red/rno:3 61389%09 red/rno:26 6715%09re d/rno:2974 1%09red/r no:170911 %09red/rn o:297604% 09red/rno: 94201%09 red/rno:59 294%09red /rno:25625 %09red/rn o:63879%0 9red/rno:1
Phosphatidylinositol signaling system	rno04070	4	81	0.3039468	0.931031	ENSRNO G0000001 5158 ENS RNOG000 00056371 ENSRNO G0000001 9228 ENS RNOG000 00058337	rno:316457 rno:17091 0911 2974 1 rno:2974 1 85240 1 rno:8524 0	Pikfyve, Pip5k3 Pik 3ca Pik3r2 Plcb2	http://www .genome.jp /kegg- bin/show_p athway?rno 04070/rno: 85240%09 red/rno:31 6457%09re d/rno:1709 11%09red/ rno:29741
Platelet activation	rno04611	6	133	0.3050162	0.931031	ENSRNO G0000001 2748 ENS RNOG000 00056371 ENSRNO G0000003 1092 ENS RNOG000 00004612 ENSRNO G0000001 9228 ENS RNOG000 00058337	rno:83730 rno:170911 911 81762 rno:81762 25594 297 rno:25594 41 85240 rno:29741 rno:85240	Vamp8 Pik 3ca Rock1, P160Rock, ROCK- I Ppp1cb Pi k3r2 Plcb2	http://www .genome.jp /kegg- bin/show_p athway?rno 04611/rno: 25594%09 red/rno:85 240%09red /rno:83730 %09red/rn o:170911% 09red/rno: 29741%09 red/rno:81

T cell receptor signaling pathway	rno04660	5	107	0.3058421	0.931031	ENSRNO G0000001 9228 ENSRNO RNOG000 00017348 ENSRNO G0000005 6371 ENSRNO RNOG000 00025602 ENSRNO G0000000 7925	rno:29741 29741 116 rno:116562 562 17091 rno:17091 1 94201 29 rno:9420 6078 rno:2960 78	Pik3r2 Ii2 Pik3ca Cdk 4 Pak6	http://www.genome.jp/kegg-bin/show_pathway?rno04660/rno:94201%09red/rno:116562%09red/rno:296078%09red/rno:170911%09red/rno:29741%0
Citrate cycle (TCA cycle)	rno00020	2	32	0.3068725	0.931031	ENSRNO G0000000 1440 ENSRNO RNOG000 00015020	rno:81829 81829 244 rno:24479 79	Mdh2, Mor1 Idh1	http://www.genome.jp/kegg-bin/show_pathway?rno00020/rno:81829%09red/rno:24479%09red
Vitamin B6 metabolism	rno00750	1	10	0.3069135	0.931031	ENSRNO G0000000 7979	rno:295663 295663	Phospho2	http://www.genome.jp/kegg-bin/show_pathway?rno00750/rno:295663%0
Ubiquinone and other terpenoid-quinone biosyntheses	rno00130	1	10	0.3069135	0.931031	ENSRNO G0000001 2975	rno:81716 81716	Ggcx	http://www.genome.jp/kegg-bin/show_pathway?rno00130/rno:81716%09
Peroxisome	rno04146	4	82	0.3113709	0.931031	ENSRNO G0000001 5020 ENSRNO RNOG000 00019394 ENSRNO G0000001 1929 ENSRNO RNOG000 00015538	rno:24479 24479 290 rno:290645 645 25270 rno:25270 84356 rno:84356	Idh1 Mpv1 7l2, RGD13080 64 Abcd3, PMP70, Pxmp1 Ab cd2, ALDR	http://www.genome.jp/kegg-bin/show_pathway?rno04146/rno:290645%09red/rno:25270%09red/rno:84356%
Amoebiasis	rno05146	5	108	0.3122778	0.931031	ENSRNO G0000002 8701 ENSRNO RNOG000 00056371 ENSRNO G0000001 9228 ENSRNO RNOG000 00023546 ENSRNO G0000005 8337	rno:296545 296545 17 rno:17091 0911 2974 rno:2974 1 24471 85 rno:2447 240 rno:8524 0	C8g Pik3ca Pik3r2 Hs pb1, Hsp25, Hsp27 Plcb 2	http://www.genome.jp/kegg-bin/show_pathway?rno05146/rno:296545%09red/rno:8524%09red/rno:24471%09red/rno:170911%09red/rno:2974
Acute myeloid leukemia	rno05221	3	57	0.314005	0.931031	ENSRNO G0000001 9228 ENSRNO RNOG000 00009615 ENSRNO G0000005 6371	rno:29741 29741 567 rno:56718 18 170911 rno:170911	Pik3r2 Mto r, Frap1, RAFT1 Pik 3ca	http://www.genome.jp/kegg-bin/show_pathway?rno05221/rno:56718%09red/rno:170911%09red/rno:2974

Measles	rno05162	6	135	0.3165211	0.931031	ENSRNO G0000001 7348 ENS RNOG000 00056371 ENSRNO G0000002 5602 ENS RNOG000 00047960 ENSRNO G0000006 1099 ENS RNOG000 00019228	rno:116562 rno:17091 0911 9420 1 rno:9420 1 367915 2 1 rno:3679 4468 2974 15 rno:244 1 68 rno:297 41	116562 17 0911 9420 1 367915 2 4468 2974 1 Hsc70 Pik3 r2	Ii2 Pik3ca Cdk4 Rab9 b, RGD15629 51 Hspa8, Hsc70 Pik3 r2	http://www .genome.jp /kegg- bin/show_p athway?rno 05162/rno: 24468%09 red/rno:36 7915%09re d/rno:1709 11%09red/ rno:94201 %09red/rn o:29741%0 9red/rno:1
TNF signaling pathway	rno04668	5	109	0.3187313	0.931031	ENSRNO G0000000 6238 ENS RNOG000 00019228 ENSRNO G0000005 6371 ENS RNOG000 00031312 ENSRNO G0000002 3493	rno:311786 rno:29741 741 17091 rno:170911 1 25625 31 rno:25625 0616 rno:310616 	311786 29 741 17091 1 25625 31 0616 310616 	Traf2 Pik3r 2 Pik3ca T nfrsf1a, TNFR-1, Tnfr1 Creb 3l4, AibZIP	http://www .genome.jp /kegg- bin/show_p athway?rno 04668/rno: 311786%0 9red/rno:2 5625%09re d/rno:1709 11%09red/ rno:310616 %09red/rn o:29741%0
VEGF signaling pathway	rno04370	3	60	0.3410888	0.9538438	ENSRNO G0000002 3546 ENS RNOG000 00019228 ENSRNO G0000005 6371	rno:24471 rno:29741 41 170911 rno:170911 	24471 297 41 170911 	Hspb1, Hsp25, Hsp27 Pik3 r2 Pik3ca	http://www .genome.jp /kegg- bin/show_p athway?rno 04370/rno: 24471%09 red/rno:17 0911%09re d/rno:2974
cAMP signaling pathway	rno04024	8	195	0.3485853	0.9538438	ENSRNO G0000002 3493 ENS RNOG000 00019518 ENSRNO G0000005 6371 ENS RNOG000 00031092 ENSRNO G0000000 4612 ENS RNOG000 00015860 ENSRNO G0000001 9228 ENS	rno:310616 rno:29064 6 rno:1709 11 81762 2 11 rno:817 5594 2502 62 rno:255 4 29741 29 94 rno:250 600 24 rno:297 41 rno:296 00	310616 29 0646 1709 11 81762 2 5594 2502 4 29741 29 600 297 41 rno:296 00	Creb3l4, AibZIP Pd e4c, Dpde1 Pik 3ca Rock1, P160Rock, ROCK- I Ppp1cb G ipr, Gippr, RATGIPP R Pik3r2 A tp2b4, PMCA4	http://www .genome.jp /kegg- bin/show_p athway?rno 04024/rno: 25024%09 red/rno:31 0616%09re d/rno:2559 4%09red/r no:290646 %09red/rn o:170911% 09red/rno: 29600%09 red/rno:29 741%09red
Hepatitis B	rno05161	6	141	0.3513825	0.9538438	ENSRNO G0000002 3493 ENS RNOG000 00051650 ENSRNO G0000005 6371 ENS RNOG000 00025602 ENSRNO G0000001 9228 ENS RNOG000 00008195	rno:310616 rno:25577 577 17091 rno:170911 1 94201 29 rno:94201 741 25578 rno:29741 rno:25578	310616 25 577 17091 1 94201 29 741 25578 	Creb3l4, AibZIP Y whaq, 14- 3- 3t Pik3ca C dk4 Pik3r2 Ywhaz, 14- 3-3z	http://www .genome.jp /kegg- bin/show_p athway?rno 05161/rno: 25578%09 red/rno:31 0616%09re d/rno:1709 11%09red/ rno:94201 %09red/rn o:25577%0 9red/rno:2

Prion diseases	rno05020	2	36	0.3551963	0.9538438	ENSRNO G00000028701 ENSRNOG00000018294	rno:296545 296545 25 rno:25617 617	C8g Hspa5, BIP, GRP78	http://www.genome.jp/kegg-bin/show_pathway?rno05020/rno:296545%09red/rno:25617%09re
Prostate cancer	rno05215	4	89	0.3636359	0.9538438	ENSRNO G00000019228 ENSRNOG00000009615 ENSRNOG00000056371 ENSRNOG000000023493	rno:29741 29741 567 rno:56718 18 170911 rno:170911310616 rno:310616	Pik3r2 Mtor, Frap1, RAFT1 Pik3ca Creb3l4, AibZIP	http://www.genome.jp/kegg-bin/show_pathway?rno05215/rno:56718%09red/rno:170911%09red/rno:310616%09red/rno:29741
NF-kappa B signaling pathway	rno04064	4	89	0.3636359	0.9538438	ENSRNO G00000006238 ENSRNOG000000019264 ENSRNOG00000001312 ENSRNOG000000006967	rno:311786 311786 29 rno:29760 7604 25624 rno:25625 63879 rno:63879	Traf2 Ltbr Tnfrsf1a, TNFR-1, Tnfr1 Xiap, Api3, Birc4, riap3	http://www.genome.jp/kegg-bin/show_pathway?rno04064/rno:297604%09red/rno:311786%09red/rno:25625%09red/rno:63879
ErbB signaling pathway	rno04012	4	90	0.3711099	0.9538438	ENSRNO G00000019228 ENSRNOG00000009615 ENSRNOG00000056371 ENSRNOG000000007925	rno:29741 29741 567 rno:56718 18 170911 rno:170911296078 rno:296078	Pik3r2 Mtor, Frap1, RAFT1 Pik3ca Pak6	http://www.genome.jp/kegg-bin/show_pathway?rno04012/rno:56718%09red/rno:296078%09red/rno:170911%09red/rno:29741
Pancreatic cancer	rno05212	3	65	0.3859864	0.9538438	ENSRNO G00000019228 ENSRNOG0000000056371 ENSRNOG00000005602	rno:29741 29741 170 rno:170911911 94201 rno:94201	Pik3r2 Pik3ca Cdk4	http://www.genome.jp/kegg-bin/show_pathway?rno05212/rno:94201%09red/rno:170911%09red/rno:29741
Amphetamine addiction	rno05031	3	65	0.3859864	0.9538438	ENSRNO G00000051592 ENSRNOG000000023493 ENSRNOG00000004612	rno:309757 309757 31 rno:310610616 25596 rno:25594	Sirt1, Sir2 Creb3l4, AibZIP Pp1cb	http://www.genome.jp/kegg-bin/show_pathway?rno05031/rno:309757%09red/rno:310616%09red/rno:25594%09red

Morphine addiction	rno05032	4	92	0.3860364	0.9538438	ENSRNO G0000000 7603 ENS RNOG000 00019518 ENSRNO G0000000 7490 ENS RNOG000 00002327	rno:29694 rno:290646 rno:29695 rno:25450	29694 290 646 29695 25450	Gabrr1 Pde 4c, Dpde1 Gab rr2 Gabrb1, GARB1	http://www .genome.jp /kegg- bin/show_p athway?rno 05032/rno: 29694%09 red/rno:29 695%09red /rno:25450 %09red/rn o:290646%
Adrenergic signaling in cardiomyocytes	rno04261	6	148	0.3923893	0.9538438	ENSRNO G0000002 3493 ENS RNOG000 00056371 ENSRNO G0000000 4612 ENS RNOG000 00019228 ENSRNO G0000005 8337 ENS RNOG000 00003031	rno:310616 rno:17091 1 rno:2559 4 rno:2974 1 rno:8524 0 rno:2960 0	310616 17 0911 2559 4 29741 85 240 29600 rno:8524 PMCA4	Creb3l4, AibZIP Pik 3ca Ppp1cb Pik3r2 Plc b2 Atp2b4, PMCA4	http://www .genome.jp /kegg- bin/show_p athway?rno 04261/rno: 29600%09 red/rno:31 0616%09re d/rno:2559 4%09red/r no:85240% 09red/rno: 170911%0 9red/rno:2
Riboflavin metabolism	rno00740	1	14	0.3934382	0.9538438	ENSRNO G0000002 1659	rno:308569 	308569	Acpt	http://www .genome.jp /kegg- bin/show_p athway?rno 00740/rno: 308569%0
Neuroactive ligand-receptor interaction	rno04080	11	289	0.3953787	0.9538438	ENSRNO G0000001 5259 ENS RNOG000 00002327 ENSRNO G0000000 5662 ENS RNOG000 00007603 ENSRNO G0000000 2797 ENS RNOG000 00013887 ENSRNO G0000001 5860 ENS RNOG000 00016887 ENSRNO G0000000	rno:81753 rno:25450 rno:81672 rno:29694 rno:260430 rno:24174 rno:25024 rno:170704 rno:29695 rno:117264 rno:11667 7	81753 254 50 81672 2 9694 2604 30 24174 2 5024 1707 04 29695 1 17264 116 677 	Pth2r, Pthr2 Gabr b1, GARB1 Gr m7 Gabrr1 Gpr156, Gabab1 Adr a2b Gipr, Gippr, RATGIPP R Hrh4 Ga brr2 P2ry6, P2y6 F2r11 , Par-2, Par2	http://www .genome.jp /kegg- bin/show_p athway?rno 04080/rno: 25024%09 red/rno:24 174%09red /rno:26043 0%09red/r no:25450% 09red/rno: 81672%09 red/rno:17 0704%09re d/rno:1172 64%09red/ rno:29694 %09red/rn o:29695%0 9red/rno:8
Base excision repair	rno03410	2	40	0.4022668	0.9538438	ENSRNO G0000001 9681 ENS RNOG000 00020571	rno:59294 rno:24561	59294 245 61	Pold1 Mpgl	http://www .genome.jp /kegg- bin/show_p athway?rno 03410/rno: 59294%09 red/rno:24 561%09red

Renal cell carcinoma	rno05211	3	68	0.412591	0.9538438	ENSRNO G0000001 9228 ENSRNO RNOG000 00056371 ENSRNO G0000000 7925	rno:29741 29741 170 rno:170911 911 29607 8	Pik3r2 Pik 3ca Pak6	http://www .genome.jp /kegg- bin/show_p athway?rno 05211/rno: 296078%0 9red/rno:1 70911%09 red/rno:29 741%09red
Focal adhesion	rno04510	8	208	0.4132234	0.9538438	ENSRNO G0000001 2208 ENSRNO RNOG000 00005580 ENSRNO G0000000 7925 ENSRNO RNOG000 00056371 ENSRNO G0000003 1092 ENSRNO RNOG000 00004612 ENSRNO G0000001 9228 ENSRNO	rno:25713 25713 257 rno:25724 24 296078 rno:296078 170911 81 rno:17091 762 25594 1 rno:8176 29741 638 2 rno:2559 79 4 rno:2974 1 rno:6387 9	Itgb7 Itgb4 Pak6 Pik3c a Rock1, P160Rock, ROCK- I Ppp1cb Pi k3r2 Xiap, Api3, Birc4, riap3	http://www .genome.jp /kegg- bin/show_p athway?rno 04510/rno: 25724%09 red/rno:25 594%09red /rno:17091 1%09red/rn o:170911% 09red/rno: 296078%0 9red/rno:2 9741%09re d/rno:8176 2%09red/r
Pyruvate metabolism	rno00620	2	41	0.4137841	0.9538438	ENSRNO G0000000 1440 ENSRNO RNOG000 00019612	rno:81829 81829 302 rno:302995 995	Mdh2, Mor1 Haghl	http://www .genome.jp /kegg- bin/show_p athway?rno 00620/rno: 81829%09 red/rno:30 2995%09re d
Toxoplasmosis	rno05145	5	124	0.416348	0.9538438	ENSRNO G0000001 9228 ENSRNO RNOG000 00061099 ENSRNO G0000005 6371 ENSRNO RNOG000 00031312 ENSRNO G0000000 6967	rno:29741 29741 244 rno:24468 68 170911 rno:170911 25625 638 rno:25625 79 rno:63879	Pik3r2 Hsp a8, Hsc70 Pik3 ca Tnfrsf1a , TNFR-1, Tnfr1 Xiap , Api3, Birc4, riap3	http://www .genome.jp /kegg- bin/show_p athway?rno 05145/rno: 24468%09 red/rno:29 741%09red /rno:25625 %09red/rn o:170911% 09red/rno: 6967
Vasopressin-regulated water reabsorption	rno04962	2	42	0.4251894	0.9538438	ENSRNO G0000000 9781 ENSRNO RNOG000 00023493	rno:116659 116659 31 rno:31061 0616 6	Dync1i2, Dnci2, Dncic2 Cre b314, AlbZIP	http://www .genome.jp /kegg- bin/show_p athway?rno 04962/rno: 116659%0 9red/rno:3 10616%09 red

Purine metabolism	rno00230	7	182	0.4254071	0.9538438	ENSRNO G0000002 0906 ENS RNOG000 00019681 ENSRNO G0000001 3102 ENS RNOG000 00019518 ENSRNO G0000001 1617 ENS RNOG000 00000065 ENSRNO	rno:85242 85242 592 rno:59294 94 64467 2 rno:64467 90646 297 rno:290646 389 28987 rno:29738 8 289276 9 rno:2898 78 rno:289 276	Pola2 Pold 1 Entpd2, Cd3911, NTPDase2 Pde4c, Dpde1 Dgu ok Pde6b A dss, Adss2	http://www.genome.jp/kegg-bin/show_pathway?rno00230/rno:64467%09red/rno:297389%09red/rno:290646%09red/rno:85242%09red/rno:59294%09red/rno:289276%09red/rno:291157%09red/rno:117056%09red/rno:81783%09red/rno:68771%09red/rno:81783
Systemic lupus erythematosus	rno05322	5	126	0.4292928	0.9538438	ENSRNO G0000002 8701 ENS RNOG000 00003220 ENSRNO G0000000 7998 ENS RNOG000 00050410 ENSRNO G0000004 5618	rno:296545 296545 11 rno:11705 7056 8178 6 rno:8178 3 687711 2 3 rno:6877 91157 11 rno:291 157	C8g H3f3b , H3.3B Ssb Snrpd3 Hist1h2bo, Hist1h2bm , Hist1h2bn	http://www.genome.jp/kegg-bin/show_pathway?rno05322/rno:291157%09red/rno:296545%09red/rno:117056%09red/rno:68771%09red/rno:81783
Osteoclast differentiation	rno04380	5	126	0.4292928	0.9538438	ENSRNO G0000000 6238 ENS RNOG000 00019228 ENSRNO G0000005 6371 ENS RNOG000 00019568 ENSRNO G0000003 1312	rno:311786 311786 29 rno:29741 741 17091 1 24518 25 rno:24518 625 rno:25625	Traf2 Pik3r 2 Pik3ca Jund Tnfrsf1a , TNFR-1, Tnfr1	http://www.genome.jp/kegg-bin/show_pathway?rno04380/rno:24518%09red/rno:311786%09red/rno:25625%09red/rno:170911%09red/rno:170911
Melanoma	rno05218	3	71	0.4388222	0.9538438	ENSRNO G0000001 9228 ENS RNOG000 00056371 ENSRNO G0000002 5602	rno:29741 29741 170 rno:170911 911 94201 rno:94201	Pik3r2 Pik3ca Cdk4	http://www.genome.jp/kegg-bin/show_pathway?rno05218/rno:94201%09red/rno:170911%09red/rno:2974
B cell receptor signaling pathway	rno04662	3	72	0.4474677	0.9538438	ENSRNO G0000001 3309 ENS RNOG000 00056371 ENSRNO G0000001 9228	rno:294048 294048 17 rno:17091 0911 2974 1 rno:2974 1	Pik3ap1 Pik3ca Pik3r 2	http://www.genome.jp/kegg-bin/show_pathway?rno04662/rno:170911%09red/rno:294048%09red/rno:29741%09red/rno:2974

Cytokine-cytokine receptor interaction	rno04060	8	215	0.4480245	0.9538438	ENSRNO G0000001 9695 ENS RNOG000 00017348 ENSRNO G0000001 9216 ENS RNOG000 00025075 ENSRNO G0000001 9264 ENS RNOG000 00027466 ENSRNO G0000002 0630 ENS	rno:116472 rno:11656 2 rno:1713 33 361615 33 rno:361 615 rno:29 7604 rno:5 00318 rno: 24500 rno: 25625	116472 11 6562 1713 33 361615 297604 50 0318 2450 0 25625	Il17b Il2 Il12rb1, Il12rb Relt, Tnfrsf19 L tbr Cd27, Tnfrsf7 Il9r Tnfrsf1a, TNFR-1, Tnfr1	http://www .genome.jp /kegg- bin/show_p athway?rno 04060/rno: 361615%0 9red/rno:1 16472%09 red/rno:29 7604%09re d/rno:5003 18%09red/ rno:25625 %09red/rn o:24500%0 9red/rno:1 16562%09
Oxytocin signaling pathway	rno04921	6	158	0.4507336	0.9538438	ENSRNO G0000000 2412 ENS RNOG000 00056371 ENSRNO G0000003 1092 ENS RNOG000 00004612 ENSRNO G0000001 9228 ENS RNOG000 00058337	rno:114509 rno:17091 1 rno:8176 2 rno:2559 741 85240 4 rno:2974 1 rno:8524 0	114509 17 0911 8176 2 25594 29 741 85240	Mapk7, Bmk1, Erk5, Prkm7 Pik 3ca Rock1, P160Rock, ROCK- I Ppp1cb Pi k3r2 Plcb2	http://www .genome.jp /kegg- bin/show_p athway?rno 04921/rno: 25594%09 red/rno:85 240%09red /rno:11450 9%09red/r no:170911 %09red/rn o:29741%0 9red/rno:8
Pantothenate and CoA biosynthesis	rno00770	1	17	0.4511739	0.9538438	ENSRNO G0000003 8258	rno:116593 	116593	Upb1, Bup1	http://www .genome.jp /kegg- bin/show_p athway?rno 00770/rno: 116593%0
Adipocytokine signaling pathway	rno04920	3	74	0.4645939	0.9538438	ENSRNO G0000000 6238 ENS RNOG000 00009615 ENSRNO G0000003 1312	rno:311786 rno:56718 rno:25625	311786 56 718 25625	Traf2 Mtor , Frap1, RAFT1 Tn frsf1a, TNFR-1, Tnfr1	http://www .genome.jp /kegg- bin/show_p athway?rno 04920/rno: 56718%09 red/rno:31 1786%09re d/rno:2562
Retrograde endocannabinoid signaling	rno04723	4	103	0.4668165	0.9538438	ENSRNO G0000000 7603 ENS RNOG000 00058337 ENSRNO G0000000 7490 ENS RNOG000 00002327	rno:29694 rno:85240 rno:29695 rno:25450	29694 852 40 29695 2 5450	Gabrr1 Plc b2 Gabrr2 Gabrb1, GARB1	http://www .genome.jp /kegg- bin/show_p athway?rno 04723/rno: 29694%09 red/rno:29 695%09red /rno:25450 %09red/rn o:85240%0
Selenocompound metabolism	rno00450	1	18	0.4691723	0.9538438	ENSRNO G0000004 3426	rno:541589 	541589	Kat3, Ccb12	http://www .genome.jp /kegg- bin/show_p athway?rno 00450/rno: 541589%0

Nucleotide excision repair	rno03420	2	46	0.4695971	0.9538438	ENSRNO G0000001 9681 ENSRNOG00000003123	rno:59294 59294 287 287524 524	Pold1 Rpa1, Cb1-727	http://www.genome.jp/kegg-bin/show_pathway?rno03420/rno:287524%09red/rno:59294%09red
Prolactin signaling pathway	rno04917	3	75	0.4730692	0.9538438	ENSRNO G0000005 5684 ENSRNOG00000019228 ENSRNO G0000005 6371	rno:114596 114596 29 29741 741 17091 1 170911 1	Wap Pik3r2 Pik3ca	http://www.genome.jp/kegg-bin/show_pathway?rno04917/rno:114596%09red/rno:170911%09red/rno:29741%09red
Cocaine addiction	rno05030	2	47	0.4803758	0.9538438	ENSRNO G0000002 1685 ENSRNOG00000023493	rno:116671 116671 31 31061 0616 6	Cdk5r1, Cdk5r, p35 Creb314, AibZIP	http://www.genome.jp/kegg-bin/show_pathway?rno05030/rno:116671%09red/rno:310616%09red
Salivary secretion	rno04970	3	76	0.4814826	0.9538438	ENSRNO G0000003 4038 ENSRNOG000000058337 ENSRNO G0000000 3031	rno:170568 170568 85 85240 240 29600 29600	Dmbt1, Crpd Plcb2 Atp2b4, PMCA4	http://www.genome.jp/kegg-bin/show_pathway?rno04970/rno:85240%09red/rno:29600%09red/rno:170568
2-Oxocarboxylic acid metabolism	rno01210	1	19	0.4865812	0.9538438	ENSRNO G0000001 5020	rno:24479 24479	Idh1	http://www.genome.jp/kegg-bin/show_pathway?rno01210/rno:24479%09red
One carbon pool by folate	rno00670	1	19	0.4865812	0.9538438	ENSRNO G0000000 8106	rno:299857 299857	Shmt2	http://www.genome.jp/kegg-bin/show_pathway?rno00670/rno:299857%09red
Phenylalanine metabolism	rno00360	1	20	0.5034198	0.9538438	ENSRNO G0000001 7512	rno:309147 309147	Aldh3b1	http://www.genome.jp/kegg-bin/show_pathway?rno00360/rno:309147%09red

Endometrial cancer	rno05213	2	52	0.5321825	0.9538438	ENSRNO G0000001 9228 ENS RNOG000 00056371	rno:29741 rno:170911 911	29741 170 911	Pik3r2 Pik 3ca	http://www .genome.jp /kegg- bin/show_p athway?rno 05213/rno: 170911%0 9red/rno:2 9741%09re
Signaling pathways regulating pluripotency of stem cells	rno04550	5	143	0.5358318	0.9538438	ENSRNO G0000000 0062 ENS RNOG000 00019228 ENSRNO G0000005 6371 ENS RNOG000 00047211 ENSRNO G0000004 8011	rno:305624 rno:29741 741 17091 1 266715 6 5 rno:26671 79219 5 rno:6792 19	305624 29 741 17091 1 266715 6 79219 6792 19	Pcgf3, Rnf3 Pik3r 2 Pik3ca Fz d3	http://www .genome.jp /kegg- bin/show_p athway?rno 04550/rno: 266715%0 9red/rno:6 79219%09 red/rno:30 5624%09re d/rno:1709 11%09red/ rno:29741
Glutamatergic synapse	rno04724	4	115	0.5501298	0.9538438	ENSRNO G0000001 9207 ENS RNOG000 00058337 ENSRNO G0000000 5662 ENS RNOG000 00005479	rno:78957 rno:85240 rno:81672 rno:29482	78957 852 40 81672 2 9482	Shank1, Shank1a, Spank1, Sstrip Plcb 2 Grm7 Slc 1a2, Eaat2, Glt, Glt-1	http://www .genome.jp /kegg- bin/show_p athway?rno 04724/rno: 85240%09 red/rno:78 957%09red /rno:29482 %09red/rn o:81672%0
Histidine metabolism	rno00340	1	23	0.5506973	0.9538438	ENSRNO G0000001 7512	rno:309147 	309147	Aldh3b1	http://www .genome.jp /kegg- bin/show_p athway?rno 00340/rno: 309147%0
HIF-1 signaling pathway	rno04066	4	116	0.5567648	0.9538438	ENSRNO G0000001 9264 ENS RNOG000 00009615 ENSRNO G0000005 6371 ENS RNOG000 00019228	rno:297604 rno:56718 rno:170911 rno:29741	297604 56 718 17091 1 29741	Ltbr Mtor, Frap1, RAFT1 Pik 3ca Pik3r2	http://www .genome.jp /kegg- bin/show_p athway?rno 04066/rno: 297604%0 9red/rno:5 6718%09re d/rno:1709 11%09red/ rno:29741
ECM-receptor interaction	rno04512	3	86	0.5617607	0.9538438	ENSRNO G0000000 6094 ENS RNOG000 00005580 ENSRNO G0000001 2208	rno:25406 rno:25724 rno:25713	25406 257 24 25713	Cd44, CD44A, METAA, RHAMM I tgb4 Itgb7	http://www .genome.jp /kegg- bin/show_p athway?rno 04512/rno: 25724%09 red/rno:25 406%09red /rno:25713
Protein export	rno03060	1	24	0.5654354	0.9538438	ENSRNO G0000001 8294	rno:25617	25617	Hspa5, BIP, GRP78	http://www .genome.jp /kegg- bin/show_p athway?rno 03060/rno: 25617%09

Glutathione metabolism	rno00480	2	56	0.5710117	0.9538438	ENSRNO G0000001 1078 ENS RNOG000 00015020	rno:84596 rno:24479 79	84596 244 79	Srm Idh1	http://www .genome.jp /kegg- bin/show_p athway?rno 00480/rno: 84596%09 red/rno:24 479%09red
Gap junction	rno04540	3	88	0.5768896	0.9538438	ENSRNO G0000003 1707 ENS RNOG000 00058337 ENSRNO G0000000 2412	rno:500319 rno:85240 rno:114509 9	500319 85 240 11450 9	Tuba3a Plc b2 Mapk7, Bmk1, Erk5, Prkm7	http://www .genome.jp /kegg- bin/show_p athway?rno 04540/rno: 85240%09 red/rno:50 0319%09re d/rno:1145
Biosynthesis of amino acids	rno01230	3	88	0.5768896	0.9538438	ENSRNO G0000000 8106 ENS RNOG000 00015020 ENSRNO G0000001 3520	rno:299857 rno:24479 rno:171347 7	299857 24 479 17134 7	Shmt2 Idh1 Mat2a, Sams2	http://www .genome.jp /kegg- bin/show_p athway?rno 01230/rno: 171347%0 9red/rno:2 99857%09 red/rno:24 479%09red
Thyroid hormone signaling pathway	rno04919	4	120	0.5827666	0.9538438	ENSRNO G0000005 6371 ENS RNOG000 00019228 ENSRNO G0000000 9615 ENS RNOG000 00058337	rno:170911 rno:29741 rno:56718 rno:85240	170911 29 741 56718 85240	Pik3ca Pik 3r2 Mtor, Frap1, RAFT1 Plc b2	http://www .genome.jp /kegg- bin/show_p athway?rno 04919/rno: 85240%09 red/rno:56 718%09red /rno:17091 1%09red/r no:29741%
Leukocyte transendothelial migration	rno04670	4	120	0.5827666	0.9538438	ENSRNO G0000001 9228 ENS RNOG000 00056371 ENSRNO G0000003 1092 ENS RNOG000 00030790	rno:29741 rno:170911 rno:81762 rno:311163 	29741 170 911 81762 311163	Pik3r2 Pik 3ca Rock1, P160Rock, ROCK- I Ctnnd1, Catns	http://www .genome.jp /kegg- bin/show_p athway?rno 04670/rno: 81762%09 red/rno:31 1163%09re d/rno:1709 11%09red/ rno:29741
Huntington's disease	rno05016	7	213	0.5847034	0.9538438	ENSRNO G0000001 7446 ENS RNOG000 00014635 ENSRNO G0000002 3493 ENS RNOG000 00000574 ENSRNO G0000000 4526 ENS RNOG000 00031851 ENSRNO G0000005	rno:293652 rno:83800 rno:310616 rno:94194 rno:298762 rno:10036 2331 rno:8 5240	293652 83 800 31061 6 94194 29 8762 1003 62331 852 40	Ndufs8 Clt a, LCA1, LCA2, LCA3 Creb 3l4, A1b ZIP Co x5b Cox7a 2 Ndufa4l 2 Plcb2	http://www .genome.jp /kegg- bin/show_p athway?rno 05016/rno: 100362331 %09red/rn o:293652% 09red/rno: 310616%0 9red/rno:8 5240%09re d/rno:8380 0%09red/r no:94194% 09red/rno:

Carbon metabolism	rno01200	4	121	0.5891281	0.9538438	ENSRNO G0000002 3150 ENS RNOG000 00001440 ENSRNO G0000001 5020 ENS RNOG000 00008106	rno:292804 rno:81829 rno:24479 rno:299857 	292804 81 829 24479 299857	Gpi, Amf, Gpi1, Nlk, Pgi, Phi Mdh2, Mor1 Idh1 Shmt2	http://www .genome.jp /kegg- bin/show_p athway?rno 01200/rno: 292804%0 9red/rno:8 1829%09re d/rno:2998 57%09red/ rno:24479
Endocytosis	rno04144	8	245	0.5906306	0.9538438	ENSRNO G0000002 5584 ENS RNOG000 00061519 ENSRNO G0000001 4635 ENS RNOG000 00014135 ENSRNO G0000006 0550 ENS RNOG000 00012227 ENSRNO G0000000 1190 ENS	rno:65218 rno:362719 rno:83800 rno:303337 rno:60443 rno:171565 rno:30454 6 rno:2446 8	65218 362 719 83800 303337 60 443 17156 5 304546 2 4468	Agap2, Centg1, Pike Asap2 , Ddef2 Clta, LCA1, LCA2, LCA3 Rab 11fip4, RGD13050 63 Epn2 St ambp, Amsh Git2 Hspa8, Hsc70	http://www .genome.jp /kegg- bin/show_p athway?rno 04144/rno: 24468%09 red/rno:30 3337%09re d/rno:3045 63%09red/ rno:60443 %09red/rn o:65218%0 9red/rno:8 3800%09re d/rno:3627 19%09red/
GABAergic synapse	rno04727	3	90	0.5916864	0.9538438	ENSRNO G0000000 7603 ENS RNOG000 00007490 ENSRNO G0000000 2327	rno:29694 rno:29695 rno:25450	29694 296 95 25450	Gabrr1 Ga brr2 Gabrb 1, GARB1	http://www .genome.jp /kegg- bin/show_p athway?rno 04727/rno: 29694%09 red/rno:29 695%09red/ rno:25450
Amyotrophic lateral sclerosis (ALS)	rno05014	2	59	0.598564	0.9538438	ENSRNO G0000003 1312 ENS RNOG000 00005479	rno:25625 rno:29482	25625 294 82	Tnfrsf1a, TNFR-1, Tnfr1 Slc1 a2, Eaat2, Glt, Glt-1	http://www .genome.jp /kegg- bin/show_p athway?rno 05014/rno: 29482%09 red/rno:25 625%09red
Fc gamma R-mediated phagocytosis	rno04666	3	91	0.5989582	0.9538438	ENSRNO G0000001 9228 ENS RNOG000 00056371 ENSRNO G0000006 1519	rno:29741 rno:170911 rno:36271 9	29741 170 911 36271 9	Pik3r2 Pik 3ca Asap2, Ddef2	http://www .genome.jp /kegg- bin/show_p athway?rno 04666/rno: 362719%0 9red/rno:1 70911%09 red/rno:29 741%09red
Glycerophospholipid metabolism	rno00564	3	92	0.6061445	0.9538438	ENSRNO G0000001 6791 ENS RNOG000 00018077 ENSRNO G0000004 5743	rno:29194 rno:290843 rno:68707 1	29194 290 843 68707 1	Chka, CK- R, Chk Agpat 6, RGD13105 20 Etnppl	http://www .genome.jp /kegg- bin/show_p athway?rno 00564/rno: 290843%0 9red/rno:6 87071%09 red/rno:29 194%09red

Phototransduction	rno04744	1	27	0.6068148	0.9538438	ENSRNO G0000000065	rno:289878 289878	Pde6b	http://www.genome.jp/kegg-bin/show_pathway?rno04744/rno:289878%0
Neurotrophin signaling pathway	rno04722	4	124	0.6078665	0.9538438	ENSRNO G00000019228 ENSRNO G00000056371 ENSRNO G0000002412	rno:29741 29741 314314 rno:314850 850 17091 rno:17091 1 114509 rno:114509	Pik3r2 Frs2 Pik3ca Mapk7, Bmk1, Erk5, Prkm7	http://www.genome.jp/kegg-bin/show_pathway?rno04722/rno:314850%09red/rno:29741%09red/rno:17091%09red/rno:114509
Inflammatory bowel disease (IBD)	rno05321	2	61	0.6161804	0.9538438	ENSRNO G00000017348 ENSRNO G00000019216	rno:116562 116562 17133 1333 3	Il2 Il12rb1, Il12rb	http://www.genome.jp/kegg-bin/show_pathway?rno05321/rno:116562%09red/rno:17133%09
Glycosphingolipid biosynthesis - lacto and neolacto series	rno00601	1	28	0.619714	0.9538438	ENSRNO G00000014156	rno:296564 296564	Fut7	http://www.genome.jp/kegg-bin/show_pathway?rno00601/rno:296564%0
Circadian rhythm	rno04710	1	28	0.619714	0.9538438	ENSRNO G00000005310	rno:362356 362356	Cul1	http://www.genome.jp/kegg-bin/show_pathway?rno04710/rno:362356%0
Pentose phosphate pathway	rno00030	1	28	0.619714	0.9538438	ENSRNO G00000003150	rno:292804 292804	Gpi, Amf, Gpi1, Nlk, Pgi, Phi	http://www.genome.jp/kegg-bin/show_pathway?rno00030/rno:292804%0
Taste transduction	rno04742	2	62	0.6247635	0.9538438	ENSRNO G00000019368 ENSRNO G00000058337	rno:25122 25122 85240 rno:85240 40	Scnn1a Plcb2	http://www.genome.jp/kegg-bin/show_pathway?rno04742/rno:25122%09red/rno:85240%09red
Hepatitis C	rno05160	4	128	0.6320202	0.9538438	ENSRNO G00000006238 ENSRNO G00000019228 ENSRNO G00000056371 ENSRNO G00000031312	rno:311786 311786 29741 741 17091 rno:170911 1 25625 rno:25625	Traf2 Pik3r2 Pik3ca Tnfrsf1a, TNFR-1, Tnfr1	http://www.genome.jp/kegg-bin/show_pathway?rno05160/rno:311786%09red/rno:25625%09red/rno:17091%09red/rno:29741

Antigen processing and presentation	rno04612	3	96	0.6340241	0.9538438	ENSRNO G0000001 9387 ENSRNO RNOG000 00061099 ENSRNO G0000001 8294	rno:290644 290644 24 rno:24468 468 25617 rno:25617	Ifi30 Hspa8, Hsc70 Hspa5, BIP, GRP78	http://www.genome.jp/kegg-bin/show_pathway?rno04612/rno:24468%09red/rno:290644%09red/rno:25617
Melanogenesis	rno04916	3	97	0.6407754	0.9538438	ENSRNO G0000005 8337 ENSRNO RNOG000 00047211 ENSRNO G0000002 3493	rno:85240 85240 266 rno:266715 715 31061 rno:31061 6	Plcb2 Fzd3 Creb3 AibZIP	http://www.genome.jp/kegg-bin/show_pathway?rno04916/rno:85240%09red/rno:266715%09red/rno:31061
Phagosome	rno04145	6	195	0.6481391	0.9538438	ENSRNO G0000003 1707 ENSRNO RNOG000 00017220 ENSRNO G0000001 3428 ENSRNO RNOG000 00009781 ENSRNO G0000001 5158 ENSRNO RNOG000 00003784	rno:500319 500319 29 rno:29365 3650 29690 rno:2969 81 116659 81 rno:116659 659 rno:317531 6457 rno:287531	Tuba3a Tcigr1, OC116, TIRC7 Atp6v0a4 Dyncl12, Dnci2, Dncic2 Pikfyve, Pip5k3 Rilp	http://www.genome.jp/kegg-bin/show_pathway?rno04145/rno:29365%09red/rno:2969%09red/rno:317531%09red/rno:500319%09red/rno:116659%09red/rno:116659
Long-term potentiation	rno04720	2	65	0.6496179	0.9538438	ENSRNO G0000005 8337 ENSRNO RNOG000 00004612	rno:85240 85240 255 rno:25594 94	Plcb2 Ppp1cb	http://www.genome.jp/kegg-bin/show_pathway?rno04720/rno:85240%09red/rno:25594%09red/rno:25594%09red/rno:25594
Other types of O-glycan biosynthesis	rno00514	1	31	0.6559304	0.9538438	ENSRNO G0000001 4156	rno:296564 296564	Fut7	http://www.genome.jp/kegg-bin/show_pathway?rno00514/rno:296564%09red/rno:296564
FoxO signaling pathway	rno04068	4	135	0.6719213	0.9538438	ENSRNO G0000002 5584 ENSRNO RNOG000 00051592 ENSRNO G0000005 6371 ENSRNO RNOG000 00019228	rno:65218 65218 309 rno:309757 757 17091 rno:17091 1 29741 1 rno:29741 1	Agap2, Centg1, Pike Sirt1, Sir2 Pik3ca Pik3r2	http://www.genome.jp/kegg-bin/show_pathway?rno04068/rno:65218%09red/rno:309757%09red/rno:17091%09red/rno:17091
Colorectal cancer	rno05210	2	68	0.6731458	0.9538438	ENSRNO G0000001 9228 ENSRNO RNOG000 00056371	rno:29741 29741 170 rno:170911 911	Pik3r2 Pik3ca	http://www.genome.jp/kegg-bin/show_pathway?rno05210/rno:170911%09red/rno:29741%09red/rno:29741

Parkinson's disease	rno05012	5	169	0.6781307	0.9538438	ENSRNO G0000000 7434 ENS RNOG000 00004526 ENSRNO G0000001 7446 ENS RNOG000 00000574 ENSRNO G0000003 1851	rno:297961 297961 29 rno:29876 8762 2936 2 rno:2936 52 94194 1 52 rno:941 00362331 94 rno:100 362331	Ube2j1 Cox5b Ndxf8 Cox5b Ndufa4l2	http://www.genome.jp/kegg-bin/show_pathway?rno05012/rno:100362331%09red/rno:297961%09red/rno:94194%09red/rno:29362%09red/rno:2987
Fc epsilon RI signaling pathway	rno04664	2	70	0.6881071	0.9538438	ENSRNO G0000001 9228 ENS RNOG000 00056371	rno:29741 29741 170 rno:170911 911	Pik3r2 Pik3ca	http://www.genome.jp/kegg-bin/show_pathway?rno04664/rno:170911%09red/rno:29741%09red
Alanine, aspartate and glutamate metabolism	rno00250	1	35	0.6989169	0.9538438	ENSRNO G0000000 4481	rno:289276 289276	Adss, Adss2	http://www.genome.jp/kegg-bin/show_pathway?rno00250/rno:289276%0
Pyrimidine metabolism	rno00240	3	108	0.7092159	0.9538438	ENSRNO G0000001 9681 ENS RNOG000 00038258 ENSRNO G0000002 0906	rno:59294 59294 116 rno:116593 593 85242 rno:85242	Pold1 Upb1, Bup1 Pola2	http://www.genome.jp/kegg-bin/show_pathway?rno00240/rno:116593%09red/rno:59294%09red/rno:8524
Arrhythmic right ventricular cardiomyopathy (ARVC)	rno05412	2	74	0.7163373	0.9538438	ENSRNO G0000000 5580 ENS RNOG000 00012208	rno:25724 25724 257 rno:25713 13	Itgb4 Itgb7	http://www.genome.jp/kegg-bin/show_pathway?rno05412/rno:25724%09red/rno:25713%09red
Bladder cancer	rno05219	1	37	0.7183544	0.9538438	ENSRNO G0000002 5602	rno:94201 94201	Cdk4	http://www.genome.jp/kegg-bin/show_pathway?rno05219/rno:94201%09red
Tyrosine metabolism	rno00350	1	37	0.7183544	0.9538438	ENSRNO G0000001 7512	rno:309147 309147	Aldh3b1	http://www.genome.jp/kegg-bin/show_pathway?rno00350/rno:309147%0

Ether lipid metabolism	rno00565	1	42	0.7616393	0.9538438	ENSRNO G00000004089	rno:84050 84050	Enpp2	http://www.genome.jp/kegg-bin/show_pathway?rno00565/rno:84050%09
TGF-beta signaling pathway	rno04350	2	82	0.7663634	0.9538438	ENSRNO G00000005310 ENSRNOG00031092	rno:362356 362356 81 rno:81762 762	Cu1 Rock1, P160Rock, ROCK-I	http://www.genome.jp/kegg-bin/show_pathway?rno04350/rno:81762%09red/rno:362356%09re
Hematopoietic cell lineage	rno04640	2	83	0.7720459	0.9538438	ENSRNO G00000006094 ENSRNOG00020630	rno:25406 25406 245 rno:24500 00	Cd44, CD44A, METAA, RHAMM I9r	http://www.genome.jp/kegg-bin/show_pathway?rno04640/rno:25406%09red/rno:24500%09red
Cardiac muscle contraction	rno04260	2	84	0.7776074	0.9538438	ENSRNO G00000004526 ENSRNOG00000574	rno:298762 298762 94 rno:94194 194	Cox7a2 Cox5b	http://www.genome.jp/kegg-bin/show_pathway?rno04260/rno:94194%09red/rno:298762%09re
Hypertrophic cardiomyopathy (HCM)	rno05410	2	84	0.7776074	0.9538438	ENSRNO G00000005580 ENSRNOG00012208	rno:25724 25724 257 rno:25713 13	Itgb4 Itgb7	http://www.genome.jp/kegg-bin/show_pathway?rno05410/rno:25724%09red/rno:25713%09red
Basal transcription factors	rno03022	1	45	0.7843513	0.9538438	ENSRNO G00000001135	rno:81673 81673	Gtf2b	http://www.genome.jp/kegg-bin/show_pathway?rno03022/rno:81673%09
Ras signaling pathway	rno04014	6	230	0.7890145	0.9538438	ENSRNO G00000001909 ENSRNOG000006167 ENSRNO G00000003780 ENSRNOG00056371 ENSRNO G00000007925 ENSRNOG00019228	rno:25597 25597 314 rno:314596 314596 24592 rno:24592 170911 29 rno:170911 6078 2974 rno:29607 1 rno:2974 1	Rasa2, GAP1M Rasa13, RGD13090 19 Nf1 Pik3ca Pak6 Pik3r2	http://www.genome.jp/kegg-bin/show_pathway?rno04014/rno:24592%09red/rno:25597%09red/rno:314596%09red/rno:170911%09red/rno:29607%09red/rno:
Mineral absorption	rno04978	1	46	0.791431	0.9538438	ENSRNO G00000009550	rno:25715 25715	Slc11a2, Dmt1, Nramp2	http://www.genome.jp/kegg-bin/show_pathway?rno04978/rno:25715%09

Tryptophan metabolism	rno00380	1	46	0.791431	0.9538438	ENSRNO G00000043426	rno:541589 541589	Kat3, Ccbl2	http://www.genome.jp/kegg-bin/show_pathway?rno00380/rno:541589%0
Chemical carcinogenesis	rno05204	2	87	0.7935842	0.9538438	ENSRNO G00000017512 ENSRNOG00043426	rno:309147 309147 54 rno:54158 1589 9	Aldh3b1 Kat3, Ccbl2	http://www.genome.jp/kegg-bin/show_pathway?rno05204/rno:541589%09red/rno:309147%09
Rheumatoid arthritis	rno05323	2	87	0.7935842	0.9538438	ENSRNO G00000017220 ENSRNOG00013428	rno:293650 293650 29 rno:29698 6981 1	Tcirg1, OC116, TIRC7 Atp6v0a4	http://www.genome.jp/kegg-bin/show_pathway?rno05323/rno:296981%09red/rno:293650%09
Dilated cardiomyopathy	rno05414	2	88	0.7986801	0.9538438	ENSRNO G00000005580 ENSRNOG00012208	rno:25724 25724 257 rno:25713 13	Itgb4 Itgb7	http://www.genome.jp/kegg-bin/show_pathway?rno05414/rno:25724%09red/rno:25713%09red
Sphingolipid metabolism	rno00600	1	48	0.8049015	0.9538438	ENSRNO G00000017977	rno:308909 308909	Smpd1	http://www.genome.jp/kegg-bin/show_pathway?rno00600/rno:308909%0
GnRH signaling pathway	rno04912	2	90	0.8085382	0.9538438	ENSRNO G00000058337 ENSRNOG0002412	rno:85240 85240 114 rno:114509 509	Plcb2 Mapk7, Bmk1, Erk5, Prkm7	http://www.genome.jp/kegg-bin/show_pathway?rno04912/rno:85240%09red/rno:114509%09re
Axon guidance	rno04360	3	130	0.8153659	0.9538438	ENSRNO G00000031092 ENSRNOG00019365 ENSRNOG0000007925	rno:81762 81762 307 rno:307395 395 29607 rno:29607 8 8	Rock1, P160Rock, ROCK-I Ablim3, RGD156518 Pak6	http://www.genome.jp/kegg-bin/show_pathway?rno04360/rno:81762%09red/rno:307395%09red/rno:29607
N-Glycan biosynthesis	rno00510	1	50	0.817503	0.9538438	ENSRNO G00000031896	rno:500972 500972	Stt3a, Itm1, RGD1565793	http://www.genome.jp/kegg-bin/show_pathway?rno00510/rno:500972%0

Dopaminergic synaptic	rno04728	3	131	0.8192965	0.9538438	ENSRNO G00000023493 ENSRNO G0000000058337 ENSRNO G00000004612	rno:310616 310616 85 rno:85240 240 25594 rno:25594	Creb3l4, A1bZIP Plcb2 Ppp1cb	http://www.genome.jp/kegg-bin/show_pathway?rno04728/rno:85240%09red/rno:310616%09red/rno:25594
Notch signaling pathway	rno04330	1	51	0.8234954	0.9538438	ENSRNO G00000060694	rno:57027 57027	Adam17, TACE	http://www.genome.jp/kegg-bin/show_pathway?rno04330/rno:57027%09
Fanconi anemia pathway	rno03460	1	52	0.8292914	0.9538438	ENSRNO G00000003123	rno:287524 287524	Rpa1, Cb1-727	http://www.genome.jp/kegg-bin/show_pathway?rno03460/rno:287524%09
Toll-like receptor signaling pathway	rno04620	2	96	0.8355766	0.9538438	ENSRNO G00000019228 ENSRNO G0000000056371	rno:29741 29741 170 rno:170911 911	Pik3r2 Pik3ca	http://www.genome.jp/kegg-bin/show_pathway?rno04620/rno:170911%09red/rno:29741%09red
Natural killer cell mediated cytotoxicity	rno04650	2	97	0.8397323	0.9538438	ENSRNO G00000019228 ENSRNO G0000000056371	rno:29741 29741 170 rno:170911 911	Pik3r2 Pik3ca	http://www.genome.jp/kegg-bin/show_pathway?rno04650/rno:170911%09red/rno:29741%09red
Pancreatic secretion	rno04972	2	97	0.8397323	0.9538438	ENSRNO G00000058337 ENSRNO G0000000003031	rno:85240 85240 296 rno:29600 00	Plcb2 Atp2b4, PMCA4	http://www.genome.jp/kegg-bin/show_pathway?rno04972/rno:85240%09red/rno:29600%09red
Staphylococcus aureus infection	rno05150	1	54	0.8403191	0.9538438	ENSRNO G00000011258	rno:64459 64459	Masp2, MASP-2, MAp19	http://www.genome.jp/kegg-bin/show_pathway?rno05150/rno:64459%09
Alcoholism	rno05034	4	175	0.8419039	0.9538438	ENSRNO G00000003220 ENSRNO G00000000023493 ENSRNO G000000045618 ENSRNO G0000000004612	rno:117056 117056 31 rno:31061 0616 29116 rno:291157 25594 57 rno:25594 94	H3f3b, H3.3B Creb3l4, A1bZIP Hist1h2bt1h2bo, Hist1h2bm, Hist1h2bn Ppp1cb	http://www.genome.jp/kegg-bin/show_pathway?rno05034/rno:291157%09red/rno:117056%09red/rno:310616%09red/rno:25594

Pathways in cancer	rno05200	8	329	0.8655405	0.9538438	ENSRNO G0000001 2645 ENS RNOG000 00006238 ENSRNO G0000005 6371 ENS RNOG000 00025602 ENSRNO G0000001 9228 ENS RNOG000 00009615 ENSRNO G0000000 6967 ENS	rno:294924 rno:31178 1786 1709 6 rno:1709 11 94201 2 11 rno:942 9741 5671 01 rno:297 8 63879 26 41 rno:567 6715 18 rno:638 79 rno:266 715	294924 31 1786 1709 11 94201 2 9741 5671 8 63879 26 6715	Mecom, Evi1, Mds1 Traf 2 Pik3ca C dk4 Pik3r2 Mtor, Frap1, RAFT1 Xi ap, Api3, Birc4, riap3 Fzd3	http://www .genome.jp /kegg- bin/show_p athway?rno 05200/rno: 266715%0 9red/rno:6 3879%09re d/rno:1709 11%09red/ rno:94201 %09red/rn o:56718%0 9red/rno:2 9741%09re d/rno:3117 86%09red/
Arginine and proline metabolism	rno00330	1	60	0.8693133	0.9538438	ENSRNO G0000001 1078	rno:84596 84596	Srm	http://www .genome.jp /kegg- bin/show_p athway?rno 00330/rno: 84596%09	
Metabolic pathways	rno01100	37	1295	0.8723085	0.9538438	ENSRNO G0000001 1078 ENS RNOG000 00013428 ENSRNO G0000001 4156 ENS RNOG000 00018077 ENSRNO G0000001 3520 ENS RNOG000 00009096 ENSRNO G0000001 7977 ENS RNOG000 00020906 ENSRNO G0000004 5743 ENS RNOG000 00019741 ENSRNO G0000001 9681 ENS RNOG000 00000064 ENSRNO G0000001	rno:84596 rno:296981 rno:29656 4 290843 1 4 rno:2908 71347 312 43 rno:171 086 30890 347 rno:31 9 85242 68 2086 rno:3 7071 2906 08909 rno: 51 59294 1 85242 rno: 40608 114 687071 rno :290651 rn o:59294 rn o:140608 r no:114711 rno:309147 rno:25526 rno:541589 59 296851 rno:29365 60356 297 0 rno:2919 389 50097 4 rno:8182 2 85240 28 9 rno:9419 9276 2936 4 rno:8402 52 24479 1 4 rno:2928 00362331 04 rno:287 299857 29 159 rno:29 5663 1147 6851 rno:6 00 116593 0356 rno:2 25659 97389 rno: 500972 rno :85240 rno: 289276 rno :293652 rn	rno:84596 296 981 29656 4 290843 1 71347 312 086 30890 9 85242 68 7071 2906 51 59294 1 40608 114 711 30914 7 25526 54 1589 2936 50 29194 8 1829 9419 4 84024 29 2804 2871 59 296851 60356 297 389 50097 2 85240 28 9276 2936 52 24479 1 00362331 299857 29 5663 1147 00 116593 25659	Srm Atp6v 0a4 Fut7 A gpat6, RGD13105 20 Mat2a, Sams2 Pon 3 Smpd1 P ola2 Etnpp1 lsyna1 Pol d1 Atp5i, Atp5k Gne, Uae1 Aldh 3b1 Ptgds, PH2DISO Kat3, Ccb12 Tcir g1, OC116, TIRC7 Chk a, CK-R, Chk Mdh2, Mor1 Cox5 b Pon1 Gpi , Amf, Gpi1, Nlk, Pgi, Phi Pigq Po n2 Csad Dg uok Stt3a, Itm1, RGD15657 93 Plcb2 A	http://www .genome.jp /kegg- bin/show_p athway?rno 01100/rno: 100362331 %09red/rno: 100293652% 09red/rno: 100293650% 09red/rno: 290843%09 red/rno:29 6564%09re d/rno:1165 93%09red/ rno:171347 %09red/rn o:312086% 09red/rno: 94194%09 red/rno:29 2804%09re d/rno:2956 63%09red/ rno:84024 %09red/rn o:25526%0 9red/rno:2
Legionello sis	rno05134	1	61	0.8736062	0.9538438	ENSRNO G0000006 1099	rno:24468 24468	Hspa8, Hsc70	http://www .genome.jp /kegg- bin/show_p athway?rno 05134/rno: 24468%09	
RIG-I-like receptor signaling pathway	rno04622	1	62	0.8777582	0.9538438	ENSRNO G0000000 6238	rno:311786 311786	Traf2	http://www .genome.jp /kegg- bin/show_p athway?rno 04622/rno: 311786%0	

Long-term depression	rno04730	1	62	0.8777582	0.9538438	ENSRNO G00000058337	rno:85240 85240	Plcb2	http://www.genome.jp/kegg-bin/show_pathway?rno04730/rno:85240%09
Graft-versus-host disease	rno05332	1	66	0.8930479	0.9538438	ENSRNO G00000017348	rno:116562 116562	Il2	http://www.genome.jp/kegg-bin/show_pathway?rno05332/rno:116562%0
Metabolism of xenobiotics by cytochrome P450	rno00980	1	67	0.8965619	0.9538438	ENSRNO G00000017512	rno:309147 309147	Aldh3b1	http://www.genome.jp/kegg-bin/show_pathway?rno00980/rno:309147%0
Allograft rejection	rno05330	1	68	0.8999606	0.9538438	ENSRNO G00000017348	rno:116562 116562	Il2	http://www.genome.jp/kegg-bin/show_pathway?rno05330/rno:116562%0
Aminoacyl-tRNA biosynthesis	rno00970	1	69	0.9032478	0.9538438	ENSRNO G00000002813	rno:304919 304919	Dars2, RGD1308286	http://www.genome.jp/kegg-bin/show_pathway?rno00970/rno:304919%0
Drug metabolism - cytochrome P450	rno00982	1	69	0.9032478	0.9538438	ENSRNO G00000017512	rno:309147 309147	Aldh3b1	http://www.genome.jp/kegg-bin/show_pathway?rno00982/rno:309147%0
Gastric acid secretion	rno04971	1	72	0.912476	0.9538438	ENSRNO G00000058337	rno:85240 85240	Plcb2	http://www.genome.jp/kegg-bin/show_pathway?rno04971/rno:85240%09
Adherens junction	rno04520	1	74	0.9181344	0.9538438	ENSRNO G00000030790	rno:311163 311163	Ctnnd1, Catns	http://www.genome.jp/kegg-bin/show_pathway?rno04520/rno:311163%0
Type I diabetes mellitus	rno04940	1	75	0.920825	0.9538438	ENSRNO G00000017348	rno:116562 116562	Il2	http://www.genome.jp/kegg-bin/show_pathway?rno04940/rno:116562%0
Serotonergic synapse	rno04726	2	124	0.9213537	0.9538438	ENSRNO G00000058337 ENSRNO G00000002327	rno:85240 85240 254 rno:25450 50	Plcb2 Gabbr1, GARB1	http://www.genome.jp/kegg-bin/show_pathway?rno04726/rno:85240%09red/rno:25450%09red

Autoimmune thyroid disease	rno05320	1	76	0.9234273	0.9538438	ENSRNO G0000001 7348	rno:116562 116562	Il2	http://www.genome.jp/kegg-bin/show_pathway?rno05320/rno:116562%0
Transcriptional misregulation in cancer	rno05202	3	169	0.9237676	0.9538438	ENSRNO G0000000 3220 ENSRNO G0000001 2208	rno:117056 117056 11 rno:11451 4510 2571 3 rno:2571 3	H3f3b, H3.3B Ilt3, Af-9, Af9 Itgb7	http://www.genome.jp/kegg-bin/show_pathway?rno05202/rno:117056%09red/rno:114510%09red/rno:25713%09red
Arachidonic acid metabolism	rno00590	1	78	0.9283784	0.9541667	ENSRNO G0000001 5550	rno:25526 25526	Ptgds, PH2DISO	http://www.genome.jp/kegg-bin/show_pathway?rno00590/rno:25526%09
Herpes simplex infection	rno05168	4	218	0.9354153	0.9569687	ENSRNO G0000000 6238 ENSRNO G0000001 00005310 ENSRNO G0000003 1312 ENSRNO G0000004 612	rno:311786 311786 36 rno:36235 2356 2562 5 rno:2562 5 25594 4 rno:2559 4	Traf2 Cul1 Tnfrsf1a, TNFR-1, Tnfr1 Ppp1cb	http://www.genome.jp/kegg-bin/show_pathway?rno05168/rno:311786%09red/rno:25625%09red/rno:362356%09red/rno:25594
Ribosome biogenesis in eukaryotes	rno03008	1	87	0.9469871	0.964363	ENSRNO G0000002 6316	rno:362703 362703	Wdr43	http://www.genome.jp/kegg-bin/show_pathway?rno03008/rno:362703%0
Viral myocarditis	rno05416	1	93	0.9566242	0.9694993	ENSRNO G0000001 7158	rno:361628 361628	Eif4g2	http://www.genome.jp/kegg-bin/show_pathway?rno05416/rno:361628%0
Circadian entrainment	rno04713	1	96	0.9607651	0.9694993	ENSRNO G0000005 8337	rno:85240 85240	Plcb2	http://www.genome.jp/kegg-bin/show_pathway?rno04713/rno:85240%09
Calcium signaling pathway	rno04020	2	182	0.9845153	0.9889702	ENSRNO G0000005 8337 ENSRNO G0000003 031	rno:85240 85240 296 rno:29600 00	Plcb2 Atp2b4, PMCA4	http://www.genome.jp/kegg-bin/show_pathway?rno04020/rno:85240%09red/rno:29600%09red

Cell adhesion molecules (CAMs)	rno04514	1	172	0.9969234	0.9969234	ENSRNO G0000001 2208	rno:25713 25713 Itgb7	http://www .genome.jp /kegg- bin/show_p athway?rno 04514/rno: 25713%09
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##Databases: KEGG PATHWAY. ##Statistical test method: hypergeometric test / Fisher's exact test. ##FDR correction method: Benjamini and Hochberg. KEGG: Kyoto Encyclopedia of Genes and Genomes; ISP: in situ ischemic postconditioning; RIP: remote