

Table 1. Quantitative evaluation of 58 RA-responsive genes including three AS types by real-time PCR.

AS pattern	Gene symbol	cDNA name	Change in expression level compared to the 0-day sample					Gene description	References
			1-day	2- days	7- days	14- days	35- days		
Alt. N-terminus	DCLK1	FLJ50539 NM_004734.2	± ±	Dn ±	Dn Up	Dn Up	Dn Up	Differ	doublecortin-like kinase 1 [10, 36-38]
	ETV1	NM_004956.3 FLJ50494	± ±	Dn ±	± Dn	Up Up	Up Up	Differ	ets variant 1 [8, 10, 24-27]
	ETV4	NM_001986.1 BC007242.1	± ±	Dn Dn	Dn Dn	Dn Dn	Dn ±	Differ	ets variant 4 [8, 22, 23]
	ETV5	NM_004454.1 FLJ56169	Dn ±	Dn Dn	Dn Dn	Dn ±	Up	Differ	ets variant gene 5 [8, 22-25]
	GPRC5B	NM_016235.1 FLJ55176	± ±	± Dn	± ±	Dn Dn	± ±	Differ	G protein-coupled receptor, family C, group 5, member B [40-42]
	HOXA3	NM_030661.3 NM_153632.1	Up (208) ±	Up (1,911) Up	Up (49,668) Up	Up (106,464) Up	Up (212,928) Up (195)	Differ	homeobox A3 [8, 18, 19]
	MEIS2	NM_020149.2 NM_002399.2 NM_172316.1	Up Up Up	Up Up Up	Up Up Up	Up Up Up	Up Up Up	Same	Meis homeobox 2 [34, 35]
	NEFM	FLJ58361 NM_005382.1	± ±	± Up	Up Up	Up Up	Up Up	Same	neurofilament, medium polypeptide [43, 44]
	PAX6	NM_000280.2 FLJ36930	Up Up	Up (295) Up (38)	Up (195) Up (416)	Up (182) Up (389)	Up (182) Up (389)	Same	paired box 6 [8, 32, 33]
	PDZRN3	FLJ55043 FLJ54746 FLJ54738 FLJ97766 NM_015009.1	Up ± ± ± ±	Up (169) Up Up Up Up	Up (3,327) Up Up (128) Up Up	Up (512) Up Up Up Up	Up (1,177) Up Up Up Up	Differ	PDZ domain containing RING finger 3 [10, 39]
Alt. cassette-exon	POU5F1	NM_002701.3 NM_203289.3	± ±	± Dn	Dn Dn	Dn Dn	Dn Dn	Differ	POU class 5 homeobox 1 [8, 28-31]
	RARB	NM_000965.2 FLJ56241	Up Up	Up (256) Up	Up (195) Up	Up (182) Up	Up (478) Up	Differ	retinoic acid receptor, beta [8, 20, 21]
	SEMA3C	FLJ55486 NM_006379.2	± Up	± Up	Up Up	Up Up	Up Up	Differ	sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3C [45, 46]
	SKAP2	FLJ50630 FLJ1950 NM_003930.3	Up (549) Up (512) Up (104)	Up (2,703) Up (1,261) Up (195)	Up (2,195) Up (4,706) Up (1,177)	Up (21,619) Up (295) Up (5,405)	Up (40,343) Up (3,566) Up (15,287)	Differ	src kinase associated phosphoprotein 2 [10, 47]
	TGIF1	NM_003244.2 NM_173207.1 NM_170695.2	Dn ± Dn	Dn ± ±	± Up Dn	Dn ± Dn	Dn Dn Dn	Differ	TGF $\beta$ -induced factor (TALE) family homeobox [48]
	TXNIP	NM_006472.1 FLJ59613	± ±	Up Up	Up (148) Up	Up Up	Up Up	Differ	thioredoxin interacting protein [49, 50]
	ASRGL1	NM_025080.2 BC064963.1	± ±	Up Up	Up Up	± ±	± ±	Same	asparaginase like 1 [57]
	CYP2S1	NM_030622.6 FLJ52866	Up ±	± Dn	Dn Dn	Dn Dn	Dn Dn	Differ	cytochrome P450, family 2, subfamily S, polypeptide 1 [58]
	CYP26B1	NM_019885.2 FLJ51622	± ±	± Up	Up (182) Up (128)	Up Up	Up (725) Up (416)	Same	cytochrome P450, family 26, subfamily B, polypeptide 1 [52, 53]
	DNMT3B	NM_006892.3 NM_175849.1	± Up	Dn ±	Dn (112) Dn	Dn (2,703) Dn	Dn (1,449) Dn	Differ	DNA (cytosine-5-)-methyltransferase 3 beta [54-56]
Alt. cassette-intron	GSTO2	NM_183239.1 FLJ52232	Dn Dn	Dn Dn	± Dn	Dn Dn	± Dn	Differ	glutathione S-transferase omega 2 [59, 60]
	HOXA1	NM_005522.3 NM_153620.1	Up (32,768) Up (14,264)	Up (20,172) Up (17,560)	Up (23,171) Up (11,586)	Up (2,195) Up (892)	Up (6,654) Up (1,449)	Differ	homeo box A1 [61-63]
	ISYNA1	NM_016368.3 FLJ34860 FLJ36142	± Up ±	Up Up Up	Up Up Up	Up Up Up	Up Up Up	Differ	myo-inositol 1-phosphate synthase A1 [64, 65]
	NMU	NM_006681.1 ENST00000381315	Up Up	Up Up	Up Up	Up Up	Up Up	Same	neuromedin U [66, 67]
	PKNOX2	NM_02062.1 FLJ58605	Up Up	Up Up	Up Up	Up Up	Up Up	Same	PBX/knotted 1 homeobox 2 [68, 69]
	RFX2	NM_000635.2 FLJ53376	± ±	Up Up	Up Up	Up (148) Up (128)	Up (338) Up (295)	Same	regulatory factor X, 2 (influences HLA class II expression) [8, 51]
	RNF207	NM_173795.2 FLJ54599	Up Up	± Up	Up Up	Up Up	Up Up	Differ	ring finger protein 207 [8, 70]
	SPP1	FLJ54682 FLJ52507 FLJ78337 NM_000582.2	± ± ± ±	± ± ± ±	Dn Dn Dn Dn	Dn Dn Dn Dn	Dn Dn Dn Dn	Same	secreted phosphoprotein 1 (osteopontin, bone sialoprotein I, early T-lymphocyte activation 1) [71-73]

Table 1. Continue.

AS pattern	Gene symbol	cDNA name	Change in expression level compared to the 0-day sample					Expression pattern	Gene description	References
			1-day	2- days	7- days	14- days	35- days			
Alt. C-terminus	ATG9B	NM_173681.3 FLJ39415	Up ±	Up Up	± ±	± ±	± ±	Differ	ATG9 autophagy related 9 homolog B (S. cerevisiae)	[8, 87, 88]
CDH6		NM_004932.2 BC000019.2	±	Dn	Up	Up	Up	Differ	cadherin 6, type 2, K-cadherin (fetal kidney)	[8, 89]
CKMT1B		NM_020990.3 FLJ52224 FLJ52454	±	±	Dn	Dn	±	Differ	creatine kinase, mitochondrial 1B	[8, 90]
CLIP4		NM_024692.3 FLJ55798	±	±	Dn	±	±	Differ	CAP-GLY domain containing linker protein family, member 4	[8]
CTHRC1		NM_138455.2 FLJ57590	Up	Up	Up	Up	Up	Differ	collagen triple helix repeat containing 1	[8, 75-77]
DENNDS5B		NM_144973.2 BC020855.1	±	±	Up	Up	Up	Differ	DENN/MADD domain containing 5B	[8]
DMKN		NM_033317.2 FLJ57785	±	±	Dn	±	Dn	Differ	dermokine	[8, 91, 92]
EPB41L5		NM_020909.2 BC032822.2	±	±	Up	±	±	Differ	erythrocyte membrane protein band 4.1 like 5	[8, 78]
EVL		NM_016337.2 FLJ58489	±	±	Up	Up	Up	Same	Enah/Vasp-like	[8, 93]
FEZ1		NM_005103.3 NM_022549.2	±	±	Dn	Dn	±	Differ	fasciculation and elongation protein zeta 1 (zygin 1)	[8, 94, 95]
FNDC5		NM_153756.1 BC062297.1	Up Up	Up Up	Up	Up	Up	Same	fibronectin type III domain containing 5	[8, 96]
FST		NM_013409.1 NM_006350.2	±	Dn	Dn	Dn	Dn	Same	follistatin	[8, 97, 98]
HNF1B		NM_000458.1 NM_006481.1	Up Up	Up (676) Up (725)	Up (589) Up (446)	Up (416) Up (1,783)	Up (256) Up (1,177)	Differ	HNF1 homeobox B	[8, 85, 86]
HOXA2		NM_006735.3 FLJ39423	Up (7,132) Up (275)	Up (17,560) Up (589)	Up (161,369) Up (3,105)	Up (86,476) Up (3,822)	Up (244,590) Up (12,417)	Differ	homeobox A2	[8, 83, 84]
ITIH5		NM_030569.3 NM_001001851.1	Up Up	Up Up	Up Up	Up Up	Up Up	Same	inter-alpha (globulin) inhibitor H5	[8, 99, 100]
LMCD1		NM_014583.2 FLJ55005	Dn ±	Dn Dn	± ±	± ±	Dn Dn	Differ	LIM and cysteine-rich domains 1	[8, 101]
MAPKAPK2		NM_004759.3 NM_032960.2	Up Up	Up Up	± ±	± ±	Dn ±	Differ	mitogen-activated protein kinase-activated protein kinase 2	[8, 102, 103]
MRPS15		NM_031280.2 FLJ56752	± ±	± ±	± ±	± ±	Dn ±	Differ	mitochondrial ribosomal protein S15	[8, 104]
MS4A6A		NM_152852.1 NM_022349.2	± ±	Dn ±	Dn Dn	Up ±	Up Up	Differ	membrane-spanning 4-domains, subfamily A, member 6A	[8, 105, 106]
MTA3		NM_020744.2 FLJ45312	± ±	± Dn	± Dn	± ±	Dn ±	Differ	metastasis associated 1 family, member 3	[8, 107, 108]
NPHP1		NM_000272.2 NM_207181.1	± ±	± Up	Up ±	Up ±	Up ±	Differ	nephronophthisis 1 (juvenile)	[8, 109, 110]
NRP2		NM_003872.2 NM_018534.3 NM_201264.1	Up Up ±	Up Up Up	Up Up Up	± Up Dn	Up Up Dn	Differ	neuropilin 2	[8, 13, 74]
PEG3		NM_006210.1 NM_015363.3	± ±	± ±	Up ±	Up Up	Up Up	Differ	paternally expressed 3	[8, 79-81]
RBP1		NM_002899.2 FLJ50903	Up Up	Up Up	Up Up	Up Up	Up Up	Same	retinol binding protein 1, cellular	[8, 111, 112]
SLC44A5		NM_152697.2 FLJ35851	± ±	± ±	Up Up	Up Up	Up Up	Same	solute carrier family 44, member 5	[8]
ST3GAL5		NM_003896.2 FLJ55056	± ±	± Up	Up Up	Up Up	Up Up	Differ	ST3 beta-galactoside alpha-2,3-sialyltransferase 5	[8, 113]
TES		NM_015641.2 FLJ59160	± Dn	± ±	Up Up	Up Up	Up Up	Differ	testis derived transcript (3 LIM domains)	[8, 114]
WDR74		NM_018093.1 FLJ57690	± ±	± ±	± ±	Dn ±	Dn ±	Differ	WD repeat domain 74	[8]
YPEL3		NM_031477.3 FLJ12347	± ±	Up Up	Up Up	Up Up	Up Up	Same	yippee-like 3 (Drosophila)	[8, 115]
ZNF483		NM_133464.1 FLJ35492	± ±	Dn ±	Dn Dn	Dn Dn	Dn Dn	Differ	zinc finger protein 483	[8, 82]

Symbols used to indicate differences of mean averages of log2 ratios between the control (0-day) and experimental samples (1-day, 2-days, 7-days, 14-days and 35-days)

: "±", 1/2 but <twofold; "Dn", > 1/100 but ≤ 1/2; "Up", ≥ twofold but < 100-fold; "Dn()", ≥ 1/100; and "Up()", ≥ 100-fold: Numbers presented within parentheses are fold-changes.