

Table 2. Top list of the genes (n = 100) displaying the highest differential expression in the AI vs. SCNT profiles in bovine endometrial caruncles and intercaruncular areas

Gene accession n°	Unigene ID	Bovine gene name	Bovine gene symbol	Human gene symbol	Log ratio	BH p-value
Top list of the 100 most regulated genes in the [AI vs. SCNT] profiles -caruncles-						
BF040646	Bt.262	trophoblast Kunitz domain protein 3	TKDP3	TKDP3	2.4181	0.0000
BF042678	Bt.4560	trophoblast Kunitz domain protein 1	TKDP1	TKDP1	2.2450	0.0001
AW461434	Bt.3976	trophoblast Kunitz domain protein 4	TKDP4	TKDP4	2.0132	0.0011
BF041123	Hs.521459	similar to ADAM DEC1 precursor (A disintegrin and metalloproteinase domain-like protein decysin 1) (ADAM-like protein decysin 1)	LOC505890	ADAMDEC1	-1.7646	0.0004
BF440401	Hs.387679	major histocompatibility complex, class II, DQ alpha 5	BOLA-DQA5	HLA-DQA1	-1.7570	0.0179
BF045610	Hs.647247	pregnancy-associated glycoprotein 12	PAG12	PGA3	1.3351	0.0469
BM364543	Bt.32395	similar to RP11-100C15.2	LOC506553	LOC506553	-1.3318	0.0395
BM365410	Hs.653339	major histocompatibility complex, class II, DQ beta	BOLA-DQB	HLA-DQB1	-1.2991	0.0347
AW463930	Hs.436568	similar to CD74 antigen	MGC127643	CD74	-1.2573	0.0339
BM362640	Hs.534322	linker for activation of T cells	LOC514735	hCG_1998957	-1.2283	0.0296
BF440380	Hs.591492	similar to IL-6 receptor alpha chain	LOC507359	IL6R	-1.2241	0.0187
CO889316	0	similar to MHC class II antigen	LOC786695	LOC730415	-1.2150	0.0395
CN786320	Hs.494496	fructose-1,6-bisphosphatase 2	FBP2	FBP1	1.1570	0.0219
CK940257	Hs.49765	similar to very long-chain acyl-CoA synthetase homolog 1; VLCS-H1	LOC537062	SLC27A6	-1.1209	0.0183
NM_174641	Hs.77890	guanylate cyclase 1, soluble, beta 3	GUCY1B3	GUCY1B3	-1.1097	0.0469
NM_174143	Hs.497589	polymeric immunoglobulin receptor	PIGR	PIGR	-1.0991	0.0408
NG010008B20G10	Hs.135087	Transcribed locus	0	0	-1.0622	0.0388
CK845888	Hs.77348	hydroxyprostaglandin dehydrogenase 15-(NAD)	PGDH	HPGD	-1.0116	0.0369
NM_174697	Hs.65551	von Ebner minor salivary gland protein	C20orf114	C20orf114	-1.0109	0.0339
CN437321	Hs.11916	hypothetical LOC514143	LOC514143	RBKS	1.0015	0.0179
BF045350	Hs.534322	similar to MHC class II antigen	LOC786695	hCG_1998957	-0.9980	0.0269

BF440410	Bt.40266	similar to KIAA0351	LOC616166	LOC616166	-0.9952	0.0269
CN441038	Hs.241586	similar to Lymphocyte antigen 6 complex locus G6C protein precursor	MGC155145	LY6G6C	0.9739	0.0439
AW477707	Hs.521934	solute carrier family 39 (zinc transporter), member 4	SLC39A4	SLC39A4	-0.9323	0.0269
BM363079	Bt.64595	MHC class I heavy chain	LOC510417	LOC510417	-0.9185	0.0269
BF039883	Hs.164070	similar to C-terminal modulator protein	MGC152209	THEM4	0.9178	0.0479
CN440001	Hs.495912	Transcribed locus	0	DMD	-0.9116	0.0269
CR453257	Bt.28518	spleen trypsin inhibitor	LOC404103	LOC404103	-0.9104	0.0269
TC226667	Hs.155651	hepatocyte nuclear factor 3 beta	HNF-3b	FOXA2	-0.9103	0.0347
CN438214	Hs.483873	similar to GM2 activator protein	LOC504524	GM2A	-0.9090	0.0269
NM_181003	Hs.315369	aquaporin 4	AQP4	AQP4	-0.9057	0.0269
BF040927	Hs.446315	hypothetical LOC535023	MGC137524	FAM107B	-0.8985	0.0269
BF046516	Hs.504315	suppression of tumorigenicity 14	ST14	ST14	-0.8870	0.0296
BF044364	Bt.64701	connexin 26 protein	CX26	CX26	0.8167	0.0341
CK394139	0	Transcribed locus	0	SNORD114-25	0.8135	0.0395
BP270001A20E09	Hs.123659	similar to sphingomyelin phosphodiesterase, acid-like 3B	LOC518699	SMPDL3B	0.8107	0.0469
NM_174292	Hs.376209	crystallin, gamma S	CRYGS	CRYGS	0.8051	0.0395
BM362465	Hs.8372	ubiquinol-cytochrome c reductase (6.4kD) subunit	UQCR	UQCR	0.8035	0.0269
CN440346	Hs.371249	pleiotrophin	PTN	PTN	0.7980	0.0280
BF039725	Hs.478125	similar to InaD-like protein	LOC536993	INADL	-0.7973	0.0439
CN436615	Hs.289795	similar to Fetal brain protein 239 (239FB)	MGC143166	MPPED2	-0.7949	0.0395
NM_174202	Hs.592982	tryptase beta 1	TPSB1	TPSB2	-0.7949	0.0469
CR452655	Bt.13834	similar to transferrin receptor	LOC504698	LOC504698	0.7926	0.0296
CR452494	Hs.489142	collagen, type I, alpha 2	COL1A2	COL1A2	0.7786	0.0269
CR452821	Hs.130497	hypothetical LOC506918	LOC506918	FXD4	0.7782	0.0271
BF045453	Bt.76784	similar to C2orf29 protein	LOC506268	LOC506267	-0.7764	0.0269
NG010005A10E08	Bt.20831	methionine aminopeptidase 1D	MAP1D	MAP1D	-0.7718	0.0408
CR456021	Hs.644618	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 5	SLC25A5	SLC25A5	0.7706	0.0269
CN439090	Mm.4913	Transcribed locus	0	Fst	0.7603	0.0269
BF041020	Hs.498892	similar to elongation factor-2 kinase	LOC521730	EEF2K	-0.7534	0.0269
NG010008B10D01	Hs.195471	6-phosphofructo-2-kinase	LOC407183	PFKFB3	-0.7455	0.0479
BF045639	Hs.483473	similar to Chromosome 5 open reading frame 5	LOC540987	C5orf5	0.7390	0.0269
BF044113	Hs.142074	hypothetical LOC506267	LOC506267	RNF149	-0.7333	0.0347

BF042234	Hs.525589	similar to Os08g0528700	LOC509824	MEG3	0.7138	0.0296
CN435833	Bt.26852	similar to Fetal brain protein 239 (239FB)	MGC143166	MGC143166	-0.7107	0.0395
BF045339	Hs.617193	ribosomal protein L12	RPL12	CYCS	0.7078	0.0331
CR454665	Hs.164226	thrombospondin	THBS	THBS1	-0.7070	0.0269
CN437925	Hs.212360	Transcribed locus	0	DNAH5	-0.7058	0.0269
AW462092	Bt.15758	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	PTGS2	PTGS2	0.7051	0.0341
CO728320	Hs.387367	hypothetical LOC511195	LOC511195	CYP39A1	-0.7019	0.0339
CN442239	Bt.30781	similar to elongation factor 1 alpha	LOC782989	LOC782989	0.7014	0.0466
CN441033	Hs.233240	similar to alpha 3 type VI collagen isoform 5 precursor	LOC530657	COL6A3	0.7011	0.0296
BF043599	Hs.368260	hypothetical protein LOC616622	MGC127064	ATAD4	-0.6978	0.0269
CR455736	Hs.512235	similar to inositol 1,4,5-trisphosphate receptor type 2	LOC781844	ITPR2	-0.6974	0.0269
BP260004000A04	Hs.86859	similar to Growth factor receptor-bound protein 7 (GRB7 adapter protein) (Epidermal growth factor receptor GRB-7) (B47)	MGC138032	GRB7	-0.6944	0.0269
BM364040	Hs.512805	similar to CG10510-PA	MGC133899	CCDC65	-0.6822	0.0269
CR452435	Bt.991	similar to collagen, type XXVII, alpha 1	LOC513668	LOC513668	0.6819	0.0331
BF042921	Hs.653884	Transcribed locus	0	IGF1R	-0.6805	0.0430
CN442098	Hs.520028	heat shock 70kDa protein 1A	HSPA1A	HSPA1A	-0.6712	0.0269
X00673	Hs.361463	coagulation factor X	F10	F10	0.6688	0.0280
AW466018	Hs.155097	carbonic anhydrase II	CA2	CA2	0.6666	0.0269
CN435531	Hs.647659	hypothetical LOC528123	LOC528123	GPR177	-0.6626	0.0454
NM_174599	Hs.444915	solute carrier family 1 (neuronal/epithelial high affinity glutamate transporter, system Xag), member 1	SLC1A1	SLC1A1	-0.6625	0.0269
CN438106	Hs.632326	similar to SRp40-1	LOC510474	SFRS5	-0.6623	0.0296
BF045037	Hs.594952	desmin	DES	DES	0.6598	0.0341
CN433042	Hs.34114	similar to Na,K-ATPase subunit alpha 2	MGC143081	ATP1A2	0.6571	0.0439
CR454408	Hs.647774	Transcribed locus	0	RHOA	0.6566	0.0296
AW463491	Hs.517033	transglutaminase 2 (C polypeptide, protein-glutamine-gamma-glutamyltransferase)	TGM2	TGM2	-0.6533	0.0322
BF440593	Bt.64871	immunoglobulin J chain	IGJ	IGJ	0.6525	0.0322
BF039398	Bt.13202	Transcribed locus	0	0	-0.6504	0.0269
CR455921	Bt.62548	similar to Os08g0528700	LOC509824	LOC509824	0.6488	0.0341
BF042389	Hs.504877	Rho GDP dissociation inhibitor (GDI) beta	ARHGDIB	ARHGDIB	-0.6487	0.0296
CN437486	Hs.514292	similar to HOXB8	LOC785855	HOXB8	-0.6451	0.0395

BF045795	Hs.291030	Transcribed locus, moderately similar to XP_341878.3 similar to Ras GTPase-activating-like protein IQGAP1 [Rattus norvegicus]	0	IQGAP2	-0.6441	0.0347
BM366891	Bt.36160	similar to TNF-induced protein GG2-1	LOC529336	LOC529336	-0.6428	0.0430
AW465681	Hs.171695	MAP kinase phosphatase-1	MKP-1	DUSP1	-0.6422	0.0341
CN434722	Hs.436944	similar to sprouty-like protein	LOC507095	SPRY1	-0.6413	0.0296
CR453552	Hs.286233	similar to Sperm surface protein Sp17 (Sperm autoantigenic protein 17) (Sperm protein 17) (Sp17-1)	LOC616974	SPA17	-0.6391	0.0269
CR551953	Hs.59506	similar to doublesex and mab-3 related transcription factor 2	LOC514435	DMRT2	0.6380	0.0341
CO729081	Hs.7444	sperm associated antigen 6	SPAG6	SPAG6	-0.6374	0.0296
AW445383	Hs.444049	B-cell linker	BLNK	BLNK	-0.6303	0.0469
BF039401	0	0	0	0	-0.6180	0.0495
CN438559	Bt.21448	similar to mFLJ00098 protein	LOC528038	LOC528038	-0.6172	0.0296
CR453604	Mm.396893	Transcribed locus	0	Ppm1k	-0.6156	0.0469
BM362933	Hs.70312	cytochrome c oxidase subunit VIIa polypeptide 2 (liver)	COX7A2	COX7A2	0.6079	0.0296
AW462405	Hs.464779	Niemann-Pick disease, type C1	NPC1	NPC1	-0.6039	0.0280
CR550763	Hs.177530	ATP synthase, H+ transporting, mitochondrial F1 complex, epsilon subunit	ATP5E	ATP5E	0.5995	0.0435
AW463813	Bt.1199	similar to OTTHUMP00000028924	LOC509687	LOC509687	0.5992	0.0296
CR454329	0	0	0	0	-0.5970	0.0339
CR451698	0	0	0	0	-0.5923	0.0469

Top list of the 100 most regulated genes in the [AI vs. SCNT] profiles -intercaruncular areas-

CK394009	Hs.632097	similar to placenta expressed transcript protein	LOC505518	C11orf34	3.5971	0.0001
BM361913	Hs.181244	MHC Class I JSP.1	JSP.1	HLA-A	-3.3797	0.0294
BM363051	Hs.584756	fatty acid binding protein (heart) like	FABP	FABP3	3.1538	0.0070
A34676	Hs.522798	coagulation factor IX	F9	F9	-2.9716	0.0455
CN441038	Hs.241586	similar to Lymphocyte antigen 6 complex locus G6C protein precursor	MGC155145	LY6G6C	2.7726	0.0003
BM366348	Hs.467239	Transcribed locus, weakly similar to NP_065703.1 finger protein 286 [Homo sapiens]	0	ZNF347	-2.3382	0.1176
CK394055	Hs.17518	similar to radical S-adenosyl methionine domain containing 2	MGC128573	RSAD2	2.1815	0.1544
BCAZ0002aa24	Hs.568356	hypothetical protein MGC128198	MGC128198	LOC441632	1.7761	0.1408
BF039324	Hs.256278	tumor necrosis factor receptor superfamily, member 1B	TNFRSF1B	TNFRSF1B	1.7550	0.0164
CN441344	Hs.82045	midkine (neurite growth-promoting factor 2)	MDK	MDK	-1.7533	0.1217
AW466018	Hs.155097	carbonic anhydrase II	CA2	CA2	1.7364	0.0035
BF440401	Hs.387679	major histocompatibility complex, class II, DQ alpha 5	BOLA-	HLA-DQA1	-1.7024	0.1217

			DQA5			
CN436288	Mm.24097	similar to Extracellular proteinase inhibitor	LOC787253	RP23-430I21.1	1.7016	0.0037
BP240034A20D7	Hs.468410	Transcribed locus	0	EPAS1	1.6731	0.0071
NG010006A12H05	Hs.372303	Transcribed locus	0	0	1.6632	0.1959
CR451856	Hs.515517	ribosomal protein L18	RPL18	RPL18	-1.6616	0.1099
BM363371	Hs.524760	2',5'-oligoadenylate synthetase 1, 40/46kDa	OAS1	OAS1	1.6449	0.1499
AW266913	Hs.653117	decorin	DCN	DCN	-1.5879	0.0226
BM364543	Bt.32395	similar to RP11-100C15.2	LOC506553	LOC506553	-1.5474	0.0783
CR452571	Hs.633514	TIMP metalloproteinase inhibitor 2	TIMP2	TIMP2	1.5269	0.0132
CR452821	Hs.130497	hypothetical LOC506918	LOC506918	FXD4	1.4861	0.0071
CR454124	Bt.11748	similar to FAM20C protein	LOC534672	LOC534672	1.4808	0.0973
CN433430	Hs.533566	hypothetical LOC511905	LOC511905	H19	-1.4807	0.1476
AW461469	Hs.384598	serpin peptidase inhibitor, clade G (C1 inhibitor), member 1, (angioedema, hereditary)	SERPING1	SERPING1	1.4772	0.0973
AW463750	Bt.12177	claudin 4	CLDN4	CLDN4	1.4706	0.0056
BF042446	Hs.150878	membrane spanning 4-domain subfamily A member 8B	ms4A8B	MS4A8B	1.4400	0.1661
CR553606	Hs.534457	similar to Protein C14orf166	MGC127223	C14orf166	-1.3891	0.0370
BF043217	Hs.103147	similar to SPATA20 protein	MGC142822	SPATA20	1.3869	0.0455
BP111364	Hs.5940	similar to down-regulated in colon cancer 1	LOC511430	MUC13	1.3868	0.1676
AW464260	Hs.436893	proton-dependent gastrointestinal peptide transporter 1	PEPT1	SLC15A1	1.3841	0.0164
CN439003	Hs.75061	similar to MARCKS-like protein	MGC142786	MARCKSL1	-1.3531	0.0897
CN786320	Hs.494496	fructose-1,6-bisphosphatase 2	FBP2	FBP1	1.3472	0.0370
CR453289	Bt.58864	glycerophosphodiester phosphodiesterase domain containing 5	GDPD5	GDPD5	1.3289	0.1619
CR456021	Hs.644618	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 5	SLC25A5	SLC25A5	1.3161	0.0187
CN441490	Hs.653218	solute carrier family 2 (facilitated glucose transporter), member 1	SLC2A1	SLC2A1	1.3035	0.0455
CN440096	Hs.653210	stathmin 1/oncoprotein 18	STMN1	STMN1	-1.3002	0.1119
CN441882	Hs.529353	acetyl-Coenzyme A synthetase 2 (AMP forming)-like	ACAS2L	ACSS1	1.2778	0.0461
X55389	Hs.271135	ATP synthase, H+ transporting, mitochondrial F1 complex, gamma polypeptide 1	ATP5C1	ATP5C1	1.2753	0.1333
CR455491	Hs.110675	Lutheran blood group (Auberger b antigen included)	LU	BCAM	1.2692	0.0490
BM253177	Hs.87619	Transcribed locus	0	TMEM28	1.2625	0.1120

AW267059	Hs.460558	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 1	SULT1A1	SULT1A4	1.2466	0.1363
CN439210	Hs.524390	similar to alpha-tubulin	LOC407195	TUBA1A	-1.2458	0.1195
BF041211	Hs.522401	similar to RIKEN cDNA 9130404D14 gene	LOC613747	FAM129B	1.2402	0.0783
CN441890	Hs.307835	Transcribed locus, strongly similar to XP_574644.2 similar to phosphoglucomutase 5 [Rattus norvegicus]	0	PGM5	-1.2334	0.1993
BM366252	Hs.664319	similar to myosin 18A	LOC519634	TIAF1	1.2242	0.0782
BM288090	Hs.631841	similar to paralemmin-1	LOC786096	PALM	1.2083	0.0377
BF440419	Hs.519347	similar to splicing factor, arginine/serine-rich 12	LOC507801	SFRS12	-1.2003	0.1409
CR454198	Hs.525622	ribosomal protein S10	RPS10	AKT1	-1.1889	0.1120
AW464262	Mm.404295	similar to Neurobeachin-like 1 (Amyotrophic lateral sclerosis 2 chromosomal region candidate gene 17 protein)	LOC524280	Nbeal1	1.1823	0.1333
CN439330	Bt.30099	fatty acid synthase	FASN	FASN	1.1807	0.0071
CN435801	Bt.22503	similar to Protein C21orf59	MGC134342	MGC134342	1.1581	0.1877
AW464583	0	0	0	0	1.1558	0.0973
NM_174292	Hs.376209	crystallin, gamma S	CRYGS	CRYGS	1.1551	0.1268
BF440309	Hs.645562	similar to putative DNA dependent ATPase and helicase	LOC514473	ATRX	-1.1409	0.0973
BF044364	Bt.64701	connexin 26 protein	CX26	CX26	1.1348	0.0035
BF043281	Hs.591234	connexin 26 protein	CX26	GJB2	1.1169	0.0164
CN436944	Hs.652340	similar to MREG protein	LOC613445	MREG	-1.1159	0.1512
BF039401	0	0	0	0	1.1111	0.1803
BF039907	Hs.25647	v-fos FBJ murine osteosarcoma viral oncogene homolog	FOS	FOS	-1.1022	0.0208
NM_174447	Hs.123072	RAB3B, member RAS oncogene family	RAB3B	RAB3B	1.0972	0.0054
CN439555	Hs.546392	placenta-specific 8	PLAC8	PLAC8	-1.0939	0.1132
CN440346	Hs.371249	pleiotrophin	PTN	PTN	-1.0837	0.0695
NM_176650	Hs.159161	Rho GDP dissociation inhibitor (GDI) alpha	ARHGDI1	ARHGDI1	1.0787	0.1120
CR456038	Hs.535891	Ribosomal protein S3Ae	RPS3AE	CHRM2	-1.0720	0.0897
BM363628	Hs.598335	0	0	0	1.0715	0.1444
BF039836	Hs.149185	similar to CNDP dipeptidase 2 (metallopeptidase M20 family) (predicted)	MGC127325	CNDP2	1.0686	0.0973
CR553944	Hs.474751	non-muscle myosin heavy chain	LOC404108	MYH9	1.0664	0.0490
CN435672	Hs.615223	hypothetical LOC618459	LOC618459	FAM101B	1.0649	0.0763
BF043004	Hs.414579	scotin	SCOTIN	SCOTIN	1.0627	0.0679

AW487381	Hs.97044	similar to cardiac voltage gated potassium channel modulatory subunit	LOC540895	KCNIP2	1.0376	0.0616
CK394213	Hs.653685	similar to CD59 antigen p18-20	MGC133675	CD59	-1.0371	0.1132
CK954882	Hs.592130	nuclear receptor subfamily 1, group D, member 1	NR1D1	NR1D1	1.0174	0.0744
AW461370	Bt.30287	similar to DNA helicase	MGC148976	MGC148976	-1.0138	0.0490
BF046114	Hs.476308	similar to 5-aminolevulinic synthase	LOC534286	ALAS1	1.0112	0.0001
AW465148	Hs.322852	similar to Growth arrest-specific 2 like 1	LOC518935	GAS2L1	1.0083	0.1176
CK769923	Hs.109	similar to cyclin-dependent kinase (CDC2-like) 10	MGC134436	CDK10	1.0010	0.1363
BM365410	Hs.653339	major histocompatibility complex, class II, DQ beta	BOLA-DQB	HLA-DQB1	-0.9994	0.0897
CN442048	Bt.9679	similar to WDNM1 protein	LOC785026	LOC785058	0.9953	0.0180
AW463918	Hs.514220	hypothetical protein MGC127568	MGC127568	GRN	0.9953	0.0897
BP22000618703	Hs.650377	similar to GYG2 protein	LOC505258	GYG2	0.9950	0.0868
BM366091	0	0	0	0	0.9945	0.1562
BF039054	Bt.44211	hypothetical protein MGC137469	MGC137469	MGC137469	0.9931	0.1302
BF041571	Hs.569310	similar to CDC42 binding protein kinase beta (DMPK-like)	LOC508226	CDC42BPB	0.9871	0.1992
CN435575	Hs.97887	0	0	RCN1	-0.9751	0.1120
CN438896	Hs.520037	NEU1-like protein	LOC505554	NEU1	0.9739	0.0455
AV590463	Hs.190621	similar to KIAA0868 protein	LOC516395	CNTNAP2	0.9683	0.0973
BF039384	Hs.76753	endoglin (Osler-Rendu-Weber syndrome 1)	ENG	ENG	0.9660	0.1392
CN439240	Bt.51947	similar to LBP-1c=transcription factor alpha-globin CP2 homolog {alternatively spliced}	MGC139461	MGC139461	-0.9650	0.1187
AW462178	Hs.400431	similar to ELKS epsilon	LOC519271	ERC1	0.9629	0.1409
CR551335	Hs.643610	aconitase 2, mitochondrial	ACO2	ACO2	0.9549	0.0663
BP260011000E09	Bt.45570	endothelial PAS domain protein 1	EPAS1	EPAS1	0.9507	0.0969
AW445488	Hs.91481	EGF-like-domain, multiple 7	EGFL7	EGFL7	0.9435	0.0897
BF440311	Bt.6812	Transcribed locus	0	0	0.9434	0.1216
BF040461	Hs.643483	calmodulin 2	CALM2	CALM2	-0.9432	0.1858
BF041709	Hs.277035	monoglyceride lipase	MGLL	MGLL	0.9419	0.0783
AW266929	Hs.652594	glutathione peroxidase 3 (plasma)	GPX3	GPX3	0.9357	0.0540
CR451675	Hs.592514	Transcribed locus	0	CCDC50	-0.9349	0.0455
CN435551	Hs.647061	elastin	ELN	ELN	0.9314	0.1499
BF043685	Hs.408515	similar to neuregulin 2	LOC783452	NRG2	0.9285	0.0973
AW465147	Bt.7967	vav 2 protein	LOC515718	LOC515718	0.9276	0.1557