

Additional file 3. Differentially expressed genes involved in apoptosis, haemostasis, inflammation and immunity.

Gene and biological function	Symbol	GenBank	Unigene	M	LOR
APOPTOSIS					
↑(3) Tumor necrosis factor receptor superfamily, member 6b, decoy <i>Secreted apoptosis inhibitor. Anti-apoptotic.</i>	TNFRSF6B	(AF104419)	434878	2.20	11.04
↑(29) Proteoglycan 1, secretory granule <i>Member of a macromolecular complex with granzymes and perforin. Pro-apoptotic.</i>	PRG1	X17042	1908	1.32	2.61
↑(30) Cofilin 1 (non-muscle) <i>Translocates to the mitochondria in the initiation phase of apoptosis. Pro-apoptotic</i>	CFL1	X95404	180370	1.31	1.99
↑(34) Calpain 2, (m/II) large subunit Involved in the pathway calpain/mitochondrial permeability transition pore (mPTP)/Cytochrome C caspase-3. Pro-apoptotic	CAPN2	M23254	350899	1.28	2.58
↑(38) Serum/glucocorticoid regulated kinase <i>Modulates the transcriptional activity of nuclear transcription factor kappa B (NF-kB). Anti-apoptotic</i>	SGK	AJ000512	296323	1.27	2.66
↑(42) Macrophage migration inhibitory factor (glycosylation-inhibiting factor) <i>Promotes phosphorylation of MEK1/2, Erk1/2, Elk-1, PI3K, Akt. Anti-apoptotic</i>	MIF	L19686	407995	1.24	2.43
↑(44) Phosphoprotein enriched in astrocytes 15 <i>Mediates the Akt survival signalling. Anti-apoptotic</i>	PEA15	L37385	517216	1.23	2.36
↑(64) Mitochondrial carrier homolog 1 (C. elegans) <i>Release of cytochrome C, activation of caspase 3. Pro-apoptotic</i>	MTCH1	NM_014341	485262	1.08	1.24
↑(106) V-akt murine thymoma viral oncogene homolog 1 <i>Promotes cell proliferation and survival. Anti-apoptotic</i>	AKT1	M63167	525622	0.94	0.40
↓(20) Caspase 14, apoptosis-related cysteine protease Proteolytic effector of apoptosis. Pro-apoptotic	CASP14	AF097874	248226	-1.07	0.96
↓(35) Serine/threonine kinase 17a (apoptosis-inducing) <i>Localized in the nucleus, induces the morphologic changes typical of apoptosis. Pro-apoptotic</i>	STK17A	AB011420	268887	-0.98	0.71
↓(45) BCL2-like 11 (apoptosis facilitator) <i>Belongs to the family of BCL2 proteins. Anti-apoptotic</i>	BCL2L11	AF032457	469658	-0.92	0.39
↓(48) unc-5 homolog B (C. elegans) <i>Belongs to the family of netrin-1 receptors, putative tumor suppressors by control of cell death commitment. Pro-apoptotic</i>	UNC5B	AB09256	522997	-0.89	0.48
↓(56) Sodium channel, voltage-gated, type III, beta <i>Mediated a P53-dependent apoptotic pathway. Pro-apoptotic</i>	SCN3B	AB032984	4865	-0.83	0.17

HAEMOSTASIS					
↑(2) Plasminogen activator, tissue <i>Positive regulation of fibrinolysis</i>	PLAT	M15518	491582	2.23	11.50
↑(10) Enolase 1, (alpha) <i>Activation of plasminogen on endothelial cell surface</i>	ENO1	M14328	517145	1.67	5.79
↑(11) Pentaxin-related gene, rapidly induced by IL-1 beta <i>Increases Tissue Factor expression on endothelial cell</i>	PTX3	M31166	546280	1.66	5.19
↑(92) Prion protein (p27-30) (Creutzfeld-Jakob disease, Gerstmann-Strausler-Scheinker syndrome, fatal familial insomnia) <i>Activation of plasminogen.....</i>	PRNP	U29185	472010	0.97	0.52
↑(100) Membrane cofactor protein (CD46, trophoblast-lymphocyte cross-reactive antigen) <i>Maintains the haemostatic balance of endothelial cell</i>	MCP	X59405	510402	0.95	0.74
↑(110) Thrombomodulin <i>Increases the anti-coagulant properties of the endothelial cell</i>	THBD	J02973	2030	0.93	0.62
↑(112) Plasminogen activator, urokinase <i>Positive regulation of fibrinolysis</i>	PLAU	X02419/	77274	0.92	0.42
↓(13) Prostaglandin D2 synthase 21kDa (brain) <i>Inhibitor of platelet aggregation</i>	PTGDS	NM_000954	446429	-1.14	1.84
↓(33) Glycoprotein IX (platelet) <i>Cell surface receptor for von Willebrand factor, possibly mediating platelet adhesion</i>	GP9	X52997	1144	-1.00	0.83
↓(50) Protease, serine, 1 (trypsin 1) <i>Negative regulation of blood coagulation</i>	PRSS1	M22612	511525	-0.89	0.39
INFLAMMATION AND IMMUNITY					
↑(11) Pentaxin-related gene, rapidly induced by IL-1 beta <i>Produced during sepsis. Complement activation and generation of inflammation mediators</i>	PTX3	M31166	546280	1.66	5.19
↑(36) Interferon induced transmembrane protein 2 (1-8D) <i>Produced in response to type I and type II interferons</i>	IFITM2	X57351	174195	1.27	2.12
↑(40) Beta-2-microglobulin <i>Component of MHC class I complex. Present in peri-vascular amyloid deposits</i>	B2M	AB021288	534255	1.26	2.56
↑(56) Interleukin enhancer binding factor 2, 45kDa <i>Transcription factor required for expression of interleukin 2 (IL-2) gene</i>	ILF2	U10323	75117	1.15	1.89
↓(3) Lipopolysaccharide binding protein <i>Upon binding with endotoxins it interacts with Toll-like receptors, thus generating inflammation mediators</i>	LBP	AF013512	154078	-1.77	6.68
↓(25) Fc fragment of IgE, high affinity I, receptor for; alpha polypeptide <i>IgE binding in allergic disease</i>	FCER1A	X06948	897	-1.04	0.84
↓(31) Azurocidin 1 (cationic antimicrobial protein 37)	AZU1	M96326	72885	-1.02	1.11

<i>Favors cell adhesion</i>					
↓(58) Fc fragment of IgG, low affinity IIa, receptor for (CD32) <i>Phagocytosis of immune complexes and modulation of antibody production by B lymphocytes</i>	FCGR2A	M31932	352642	-0.82	0.12

M = differential expression ratio after dye-swap normalization; LOR=log odds ratio: all genes with LOR > 0 were considered significantly down-regulated (M<0) or up-regulated (M>0); in italics biological functions are reported; Each gene is univocally identifiable by a number ranging from 1 to 141 with an up-arrow meaning the up-regulation and from 1 to 58 with a down-arrow meaning the down-regulation in SSc-MVEC.