Table 5: Genes found to be regulated by Thymosin alpha 1 in PBMCs from HIV infected patients (1)

	Gene		Gene Bank Access number	SuperArray fold change
	Cytokine , Chemokines and receptors			
UP	CCL2	Chemokine (C-C motif) ligand 2 (MCP-1/ MCAF)	NM_002982	2,56
	CCL3	Chemokine (C-C motif) ligand 3 (MIP-1 alpha)	NM_002983	1,96
	CCL3L1	Chemokine (C-C motif) ligand 3-like 1 (LD78 beta)	NM_021006	1,97
	CCL4L1	Chemokine (C-C motif) ligand 4-like 1	NM_001001435	2,73
	CCL5	Chemokine (C-C motif) ligand 5 (Rantes)	NM_002985	3,21
	CCL18	Chemokine (C-C motif) ligand 18 (pulmonary and activation-regulated) (MIP-4/PARC)	NM_002988	2,03
	CCL22	Chemokine (C-C motif) ligand 22 (MDC)	NM_002990	1,56
	IL8	Interleukin 8	NM_000584	1,66
	TRAP1	TNF receptor-associated protein 1	NM_016292	1,51
	VEGFB	Vascular endothelial growth factor B	NM_003377	3,13
	CCR1	Chemokine (C-C motif) receptor 1	NM_001295	2,38
	CCR7	Chemokine (C-C motif) receptor 7	NM_001838	2,21
	CCRL2	Chemokine (C-C motif) receptor-like 2	NM_003965	2,35
	IL4R	Interleukin 4 receptor	NM_000418	1,66
	IL6R	Interleukin 6 receptor	NM_000565	1,9
	IL10RA	Interleukin 10 receptor, alpha	NM_001558	1,56
	IL10RB	Interleukin 10 receptor, beta	NM_000628	1,93
DOWN	CCL1 (I-309)	Chemokine (C-C motif) ligand 1	NM_002981	0,02
	CCL11	Chemokine (C-C motif) ligand 11 (Eotaxin)	NM_002986	0,15
	CMTM1 (CKLF)	CKLF-like MARVEL transmembrane domain containing 1	NM_181269	0,11
	CXCL1	Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)	NM_001511	0,61
	IFNA1	Interferon, alpha 1	NM_024013	0,45
	IFNA 2	Interferon, alpha 2	NM_000605	0,04
	IL5RA	Interleukin 5 receptor, alpha	NM_000564	0,16
	LEFTY1	Left-right determination factor 1	NM_020997	0,02
	LEFTY2	Left-right determination factor 2	NM_003240	0,07
	OSMR	Oncostatin M receptor	NM_003999	0,24
	CCR2	Chemokine (C-C motif) receptor 2	NM_000648	0,17
	CXCR6	Chemokine (C-X-C motif) receptor 6	NM_006564	0,54
	IL2RG	Interleukin 2 receptor, gamma (severe combined immunodeficiency)	NM_000206	0,56

Table 6: Genes found to be regulated by Thymosin alpha 1 in PBMCs from HIV infected patients (2

	Gene		Gene Bank Access number	SuperArray fold change
	Other genes involved in Cytokine-cytokine receptor interaction			
UP	CCR1	Chemokine (C-C motif) receptor 1	NM_001295	2,38
	CSF1R	Colony stimulating factor 1 receptor	NM_005211	2,58
	CSF2	Colony stimulating factor 2 (granulocyte-macrophage)	NM_000758	2,58
	CSF3 R	Colony stimulating factor 3 receptor (granulocyte)	NM_000760	1,56
	CXCL16	Chemokine (C-X-C motif) ligand 16 (small inducible cytokine B6)	NM_022059	1,81
	ECGF1	Endothelial cell growth factor 1 (platelet-derived)	NM_001953	2,8
	GDF2	Growth differentiation factor 2	NM_016204	3,69
	GRN	Granulin	NM_002087	3,29
	IFNA8	Interferon, alpha 8	NM_002170	1,95
	LTB	Lymphotoxin beta (TNF superfamily, member 3)	NM_002341	2,24
	MIF	Macrophage migration inhibitory factor (glycosylation-inhibiting factor)	NM_002415	2,28
	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A	NM_001065	2,02
	TNFRSF1B	Tumor necrosis factor receptor superfamily, member 1B	NM_001066	2,03
	TNFRSF8	Tumor necrosis factor receptor superfamily, member 8	NM_001243	1,52
	CD86	CD86 molecule	NM_006889	2,29
	SPN	Sialophorin (leukosialin, CD43)	NM_003123	1,51
DOWN	ACVR1	Activin A receptor, type I	NM_001105	0,25
	SLCO1A2	Solute carrier organic anion transporter family, member 1A2	NM_005075	0,12
	TGFB2	Transforming growth factor, beta 2	NM_003238	0,14
	TGFBR2	Transforming growth factor, beta receptor II (70/80kDa)	NM_003242	0,65
	TNFRSF9	Tumor necrosis factor receptor superfamily, member 9	NM_001561	0,18
	TGFB3	Transforming growth factor, beta 3	NM_003239	0,18
	XCR1	Chemokine (C motif) receptor 1	NM_005283	0,12
	B7H3	Costimulatory B7 molecule	NM_025240	0,018
	CD28	CD28 molecule	NM_006139	0,016

Table 7: Genes found to be regulated by Thymosin alpha 1 in PBMCs from HIV infected patients (3

	Gene		Gene Bank Access number	SuperArray fold change
	Humoral Immune response			
UP	BATF	Basic leucine zipper transcription factor, ATF-like	NM_006399	1,83
	C3	Complement component 3	NM_000064	3,53
	CCL2	Chemokine (C-C motif) ligand 2 (MCP-1/ MCAF)	NM_002982	2,56
	CCL3	Chemokine (C-C motif) ligand 3 (MIP-1 alpha)	NM_002983	1,96
	CCL18	Chemokine (C-C motif) ligand 18 (pulmonary and activation-regulated) (MIP-4)	NM_002988	2,03
	CCL22	Chemokine (C-C motif) ligand 22 (MDC)	NM_002990	1,56
	CD27	CD27 molecule	NM_001242	2,24
	CD53	CD53 molecule	NM_000560	1,5
	CD74	CD74 molecule, major histocompatibility complex, class II invariant chain	NM_004355	1,86
	CD97	CD97 molecule	NM_001784	1,86
	CD180	Ly 78	NM_005582	2,1
	CCR1	Chemokine (C-C motif) receptor 1	NM_001295	2,38
	CCR7	Chemokine (C-C motif) receptor 7	NM_001838	2,21
	CCRL2	Chemokine (C-C motif) receptor-like 2	NM_003965	2,35
	CSF1R	Colony stimulating factor 1 receptor	NM_005211	3,09
	CYBB	Cytochrome b-245, beta polypeptide (chronic granulomatous disease)	NM_000397	2,4
	ITGB2	Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)	NM_000211	2,83
	MIF	Macrophage migration inhibitory factor (glycosylation-inhibiting factor)		2,28
	SERPING1	Serpin peptidase inhibitor, clade G (C1 inhibitor), member 1, (angioedema, hereditary)	NM_000062	2,82
DOWN	BLNK	B-cell linker	NM_013314	0,06
	MAPK14	Mitogen-activated protein kinase 14	NM_001315	0,17
	SLA2	Src-like-adaptor 2	NM_175077	0,24

Table 8: Genes found to be regulated by Thymosin alpha 1in PBMCs from HIV infected patients (4

	Gene		Gene Bank Access number	SuperArray fold change
	Inflammatory response			
UP	AIF1	Allograft inflammatory factor 1	NM_001623	2,46
	ALOX5	Arachidonate 5-lipoxygenase	NM_000698	2,23
	C3	Complement component 3	NM_000064	3,53
	CCL2	Chemokine (C-C motif) ligand 2 (MCP-1/ MCAF)	NM_002982	2,56
	CCL3L1	Chemokine (C-C motif) ligand 3-like 1 (LD78 beta)	NM_021006	1,97
	CCL4L1	Chemokine (C-C motif) ligand 4-like 1	NM_001001435	2,73
	CCL5	Rantes	NM_002985	3,21
	CCL3	Chemokine (C-C motif) ligand 3 (MIP-1 alpha)	NM_002983	1,96
	CCL18	Chemokine (C-C motif) ligand 18 (pulmonary and activation-regulated) (MIP-4)	NM_002988	2,03
	CCL22	Chemokine (C-C motif) ligand 22 (MDC)	NM_002990	1,56
	CCR7	Chemokine (C-C motif) receptor 7	NM_001838	2,21
	CD14	CD14 molecule	NM_000591	3,26
	CD74	CD74 molecule, major histocompatibility complex, class II invariant chain	NM_004355	1,86
	CEBPB	CCAAT/enhancer binding protein (C/EBP), beta	NM_005194	1,66
	CYBB	Cytochrome b-245, beta polypeptide (chronic granulomatous disease)	NM_000397	2,4
	CXCL16	Chemokine (C-X-C motif) ligand 16 (small inducible cytokine B6)	NM_022059	1,81
	FOS	V-fos FBJ murine osteosarcoma viral oncogene homolog	NM_005252	1,8
	HDAC4	Histone deacetylase 4	NM_006037	3,2
	IL8	Interleukin 8	NM_000584	1,66
	IL10RB	Interleukin 10 receptor, beta	NM_000628	1,93
	IRF7	Interferon regulatory factor 7	NM_001572	2,44
	ITGAL	Integrin, alpha L (antigen CD11A (p180), lymphocyte function-associated antigen 1	NM_002209	2,03
	ITGB2	Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)	NM_000211	2,83

Table 9: Genes found to be regulated by Thymosin alpha 1 in PBMCs from HIV infected patients (5

		Gene		Gene Bank Access number	SuperArray fold change
	Inflammatory	LTA4H	Leukotriene A4 hydrolase	NM_000895	2,1
UP		MYD88	Myeloid differentiation primary response gene (88)	NM_002468	2,02
		PLA2G7	Phospholipase A2, group VII (plat-acti factor acetylhydrolase, plasma)	NM_005084	1,73
		PRDX5	Peroxiredoxin 5	NM_181652	1,55
		PREX1	Phosphatidylinositol 3,4,5-trisphosphate-dependent RAC exchanger 1	NM_020820	1,66
		S100A8	S100 calcium binding protein A12	NM_002964	3,11
		S100A12	S100 calcium binding protein A8	NM_005621	1,55
		STAB1	Stabilin 1	NM_015136	1,77
		TLR2	Toll-like receptor 2	NM_003264	1,99
		CEBPB	CCAAT/enhancer binding protein (C/EBP), beta	NM_005194	1,66
		FN1	Fibronectin 1	NM_002026	1,72
DOWN		BLNK	B-cell linker	NM_013314	0,6
		CCL1	Chemokine (C-C motif) ligand 1	NM_002981	0,02
		CCL11	Chemokine (C-C motif) ligand 11 (Eotaxin)	NM_002986	0,15
		IFNA 2	Interferon, alpha 2	NM_000605	0,04
		ICEBERG	ICEBERG caspase-1 inhibitor	NM_021571	0,06
		IL8RB	Interleukin 8 receptor, beta	NM_001557	0,17
		NR3C1	Nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)	NM_000176	0,53
		OLR1	Oxidized low density lipoprotein (lectin-like) receptor 1	NM_002543	0,62
		PTPRA	Protein tyrosine phosphatase, receptor type, A	NM_002836	0,26
		SELE	Selectin E (endothelial adhesion molecule 1)	NM_000450	0,55
		TACR1	Tachykinin receptor 1	NM_001058	0,21
		TLR8	Toll-like receptor 8	NM_016610	0,16
		LBP		NM_004139	0,04

Table 10: Genes found to be regulated by Thymosin alpha 1 in PBMCs from healthy donors (1)

	Gene		Gene Bank Access number	fold change
	Cytokine, Chemokines and receptors			
UP	CCL2	Chemokine (C-C motif) ligand 2	NM_002982	1,95
	CCL5	Chemokine (C-C motif) ligand 5	NM_002985	1,95
	CCL7	Chemokine (C-C motif) ligand 7	NM_006273	1,57
	CCL17	Chemokine (C-C motif) ligand 17	NM_002987	1,61
	CCL19	Chemokine (C-C motif) ligand 19	NM_006274	1,62
	CCL4L1	Chemokine (C-C motif) ligand 4-like 1	NM_001001435	1,70
	TNFSF11	Tumor necrosis factor (ligand) superfamily, member 11	NM_003701	6,07
	TNFSF13B	Tumor necrosis factor (ligand) superfamily, member 13b	NM_006573	3,57
	TRAP1	TNF receptor-associated protein 1	NM_016292	3,28
	VEGFB	Vascular endothelial growth factor B	NM_003377	3,16
	BLR1	Burkitt lymphoma rec 1, GTP bind prot (chemokine (C-X-C motif) rec 5)	NM_001716	1,51
	IL11RA	Interleukin 11 receptor, alpha	NM_004512	1,81
	IL4R	Interleukin 4 receptor	NM_000418	2,07
	IL7R	Interleukin 7 receptor	NM_002185	1,54
	TTN	Titin	NM_003319	1,51
DOWN	CCL11	Chemokine (C-C motif) ligand 11	NM_002986	0,01
	CCL1	Chemokine (C-C motif) ligand 1	NM_002981	0,02
	CCL3	Chemokine (C-C motif) ligand 3	NM_002983	0,46
	CXCL2	Chemokine (C-X-C motif) ligand 2	NM_002089	0,65
	CXCL12	Chemokine (C-X-C motif) ligand 12 (stromal cell-derived factor 1)	NM_000609	0,53
	CXCL10	Chemokine (C-X-C motif) ligand 10	NM_001565	0,68
	CXCL16	Chemokine (C-X-C motif) ligand 16	NM_022059	0,60
	IL8	Interleukin 8	NM_000584	0,55
	CKLF	Chemokine-like factor	NM_181641	0,62
	CSF3R	Colony stimulating factor 3 receptor (granulocyte)	NM_000760	0,63
	GHR	Growth hormone receptor	NM_000163	0,05
	IL3RA	Interleukin 3 receptor, alpha (low affinity)	NM_002183	0,28
	IL2RA	Interleukin 2 receptor, alpha	NM_000417	0,29

Table 11: Genes found to be regulated by Thymosin alpha 1 in PBMCs from healthy donors (2)

	Gene		Gene Bank Access number	SuperArray fold change
	Other genes involved in Cytokine-cytokine receptor interaction			
UP	CSF1R	Colony stimulating factor 1 receptor	NM_005211	1,74
	GRN	Granulin	NM_002087	2,04
	LTA	Lymphotoxin alpha (TNF superfamily, member 1)	NM_000595	1,96
	OSM	Oncostatin M	NM_020530	2,39
	TNFRSF1A	Tumor necrosis factor receptor superfamily, member 1A	NM_001065	2,02
	TNFRSF1B	Tumor necrosis factor receptor superfamily, member 1B	NM_001066	2,03
	CD86	CD86 molecule	NM_006889	1,73
	SIGIRR	Single immunoglobulin and toll-interleukin 1 receptor (TIR) domain	NM_021805	3,99
DOWN	CLC	Charcot-Leyden crystal protein	NM_001828	0,63
	IFNA1	Interferon, alpha 1	NM_024013	0,10
	IL1RN	Interleukin 1 receptor antagonist	NM_000577	0,64
	IL5	Interleukin 5 (colony-stimulating factor, eosinophil)	NM_000879	0,31
	SDCBP	Syndecan binding protein (syntenin)	NM_005625	0,56
	SPRED1	Sprouty-related, EVH1 domain containing 1	NM_152594	0,67
	Humoral Immune response			
UP	CCL2	Chemokine (C-C motif) ligand 2	NM_002982	1,95
	CCL7	Chemokine (C-C motif) ligand 7	NM_006273	1,57
	CD86	CD86 molecule	NM_006889	1,73
	CSF1R	Colony stimulating factor 1 receptor	NM_005211	1,74
	CYBB	Cytochrome b-245, beta polypeptide (chronic granulomatous disease)	NM_000397	1,67
	IL7R	Interleukin 7 receptor	NM_002185	1,54
	ITGB2	Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)	NM_000211	2,07
	LY96	Lymphocyte antigen 96	NM_015364	4,78
	POU2F2	POU domain, class 2, transcription factor 2	NM_002698	2,11
	SERPING1	Serpin peptidase inhibitor, clade G (C1 inhibitor)	NM_000062	2,07
	YY1	YY1 transcription factor	NM_003403	6,92
DOWN	BLNK	B-cell linker	NM_013314	0,00
	CCL3	Chemokine (C-C motif) ligand 3	NM_002983	0,46
	CLC	Charcot-Leyden crystal protein	NM_001828	0,63
	CD22	CD22 molecule	NM_001771	0,64
	CD1C	CD1c molecule	NM_001765?	0,67

Table 12: Genes found to be regulated by Thymosin alpha 1 in PBMCs from healthy donors (3)

	Gene		Gene Bank Access number	SuperArray fold change
Inflammatory response				
UP	AIF1	Allograft inflammatory factor 1	NM_001623	1,67
	CD14	CD14 molecule	NM_000591	1,95
	CCL2	Chemokine (C-C motif) ligand 2	NM_002982	1,95
	CCL5	Chemokine (C-C motif) ligand 5	NM_002985	1,95
	CCL7	Chemokine (C-C motif) ligand 7	NM_006273	1,57
	CCL17	Chemokine (C-C motif) ligand 17	NM_002987	1,61
	CCL4L1	Chemokine (C-C motif) ligand 4-like 1	NM_001001435	1,70
	CYBB	Cytochrome b-245, beta polypeptide (chronic granulomatous disease	NM_000397	1,67
	FOS	V-fos FBJ murine osteosarcoma viral oncogene homolo	NM_005252	1,61
	IRF7	Interferon regulatory factor 7	NM_001572	2,25
	ITGAL	Integrin, alphaL antigen CD11A (p180),lymphocyte function-associated antigen 1	NM_002209	1,95
	ITGB2	Integrin, beta 2 (complement component 3 receptor 3 and 4 subunit	NM_000211	2,07
	LY96	Lymphocyte antigen 96	NM_015364	4,78
	NFE2L1	Nuclear factor (erythroid-derived 2)-like 1	NM_003204	1,86
	NFATC3	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent	NM_004555	2,15
	PARP4	Poly (ADP-ribose) polymerase family, member 4	NM_006437	2,43
	PREX1	Phosphatidylinositol 3,4,5-trisphosphate-dependent RAC exchanger 1	NM_020820	2,00
	S100A12	S100 calcium binding protein A12	NM_005621	2,61
	S100A8	S100 calcium binding protein A8	NM_002964	2,18
	STAB1	Stabilin 1	NM_015136	4,11
	SIGIRR	Single immunoglobulin and toll-interleukin 1 receptor (TIR) domain	NM_021805	3,99
DOWN	BLNK	B-cell linker	NM_013314	0,00
	CCL11	Chemokine (C-C motif) ligand 11	NM_002986	0,01
	CCL1	Chemokine (C-C motif) ligand 1	NM_002981	0,02
	CCL3	Chemokine (C-C motif) ligand 3	NM_002983	0,46
	CKLF	Chemokine-like factor	NM_181641	0,62
	CXCL2	Chemokine (C-X-C motif) ligand 2	NM_002089	0,65
	CXCL12	Chemokine (C-X-C motif) ligand 12 (stromal cell-derived factor 1	NM_000609	0,53
	CXCL10	Chemokine (C-X-C motif) ligand 10	NM_001565	0,68
	CXCL16	Chemokine (C-X-C motif) ligand 16	NM_022059	0,60
	F11R	F11 receptor	NM_144503	0,66
	IL19	Interleukin 19	NM_013371	0,41
	IL1RN	Interleukin 1 receptor antagonist	NM_000577	0,64
	IL5	Interleukin 5 (colony-stimulating factor, eosinophil	NM_000879	0,31
	LEFTY2	Left-right determination factor 2	NM_003240	0,39
	NR3C1	Nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor	NM_000176	0,43
	PTPRA	Protein tyrosine phosphatase, receptor type, A	NM_002836	0,67
	FN1	Fibronectin 1	NM_002026	0,33