Table S34 - IPA maternal upstream regulators targets in affected sub-group biological functions

		Upstream Regulaotrs				
Function	Sub-Group	PRKCE	JAG1	PSEN1	ESR2	NFKBIA
Ubiquitination	M-1		CD86			
Phosphorylation of L-amino acid	M-1				IGF1R	
Differentiation of vasculature	M-1				BMP4, JAG1	
Formation of actin filaments	M-2	PRKCE, STAT3				
Interaction of tumor cell lines	M-3				PRL	
Chemotaxis of fibroblasts	M-2	STAT3				
Secretion of mucus	M-2					IL10
Density of neurons	M-1			DLG4, DYRK1A, GNAO1, PAK1, PSEN1, PSEN2, RYR2		
Quantity of dendritic spines	M-1			DLG4		
Maturation of cells	M-3				PRL	
Accumulation of phospholipid	M-1			PAFAH1B2		
Invasion of squamous cell carcinoma cell lines	M-2					CD82, CLU, ITGAV
Proliferation of lymphatic system cells	M-3				PRL	
Pathfinding	M-1			NCAM1		
Pathfinding of neurons	M-1			NCAM1		
Frequency of T lymphocytes	M-2					IL10
Activation of endothelial cells	M-2					TLR2
Concentration of phosphatidic acid	M-2	STAT3				
Concentration of phospholipid	M-2	STAT3				
Cytostasis of prostate cancer cell lines	M-1				CAV1	
Interaction of B lymphocytes	M-2					IL10
Synthesis of steroid	M-2					TLR2
Density of dendritic spines	M-1			DLG4, DYRK1A, GNAO1, PAK1, PSEN1, PSEN2, RYR2		
Clustering of vesicles	M-1				SYTL4	
Proliferation of lymphocytes	M-3				PRL	
Secretion of aldosterone	M-2	PRKD1				
Retraction of neurites	M-1			PSEN1		
Breakage of double-stranded DNA	M-1			TOP2B		
Differentiation of skeletal muscle cells	M-1				BMP4	
Interaction of lymphocytes	M-2					IL10, RGS16, TLR2
Binding of carcinoma cell lines	M-1				CAV1, SFRP4	
Remodeling of blood vessel	M-1			NOS1, RBPJ		
Quantity of granulocytes	M-3				PRL	
Concentration of choline-phospholipid	M-2	STAT3				
Cell proliferation of T lymphocytes	M-3				PRL	
Secretion of steroid hormone	M-2	PRKD1				
Binding of lymphocytes	M-2					IL10
Cytostasis of carcinoma cell lines	M-2	CYR61, STAT3				
Proliferation of prostate cancer cell lines	M-3				PRL	
Response of fibroblast cell lines	M-1			PSEN1		
Contraction of muscle cells	M-2	PRKCE, PRKD1				
Cell death of blood cells	M-3				MXD1, PRL	

Response of splenocytes	M-2				IL10, TLR2
Binding of leukocytes	M-3			PRL	
Fragmentation of Golgi apparatus	M-2	PRKD1			
Branching of fibroblast cell lines	M-1		PSEN1		
Aggregation of melanosomes	M-1			SYTL4	
Contraction of cardiac muscle	M-2	PRKD1			
Size of dendritic spines	M-1		DLG4		
Mitosis of smooth muscle cells	M-1			BMP4	
Quantity of tubulovesicular structures	M-1			CAV1	
Morphology of dendritic spines	M-1		DLG4, PAK1, PSEN1		
Interphase of kidney cell lines	M-1		PSEN2		
Enlargement of third cerebral ventricle	M-1		PSEN1, PSEN2		
Clustering of melanosomes	M-1			SYTL4	
Function of endothelial cells	M-1			IGF1R	
Function of synapse	M-1		DLG4, PSEN1		
Formation of somites	M-1		DLL3		
Quantity of hippocampal neurons	M-1		DLG4, PSEN1		
Remodeling of basement membrane	M-1			TIMP1	
Stereotypy	M-1		PAK1		
Conversion of arginine	M-1		NOS1		
Pigmentation of retinal pigment epithelium	M-1		PSEN1, PSEN2		
Migration of neocortical neurons	M-1			BMP4	
Morphogenesis of ciliary body	M-1			JAG1	
Shrinkage of cerebral cortex	M-1		PSEN1, PSEN2		
Development of second branchial arch	M-1		PSEN1, PSEN2		
Binding of membrane rafts	M-1		NCAM1		
Formation of excitatory synapses	M-1		DLG4		
Fusion of insulin granule	M-1			SYTL4	
Survival of kidney cancer cell lines	M-1			IGF1R	
Pathfinding of axons	M-1		NCAM1		
Gap junctional intercellular communication of neuronal progenitor cells	M-1			CAV1	
Signaling of vascular smooth muscle cells	M-1			IGF1R	
Long term depression of collateral synapses	M-1			CAV1	
Size of thyroid gland	M-1			IGF1R	
Formation of coronary vessel	M-1		TUBA1C, TUBA4A		
Differentiation of bile duct	M-1			JAG1	
Rearrangement of cells	M-1		PAK1		
Arrest in cell cycle progression of sarcoma cell lines	M-1			IGF1R	
Cell spreading of endothelial cells	M-2				CRYAB
Length of absolute anatomical region	M-2	CD55			
Apoptosis of skin cancer cell lines	M-2				CLU

Morphology of breast cancer cell lines	M-2		NFKBIA
Anoikis of adenocarcinoma cell lines	M-2		CD82
Polarization of decidual macrophages	M-2		IL10
Inhibition of Th1 cells	M-2		IL10
Myelination of Schwann cells	M-2		NFKBIA
Ploidy of epithelial cells	M-2		CRYAB
Emigration of antigen presenting cells	M-2		ITGAV
Release of blood cells	M-2	PRKCE	
Cell death of skin cancer cell lines	M-2		CLU, NFKBIA
Metabolism of adenosine	M-2		IL10
Localization of cholesterol	M-2		CD82
Induction of Th2 cells	M-2		IL10
Inactivation of macrophages	M-2		IL10
Mitogenesis of T lymphocytes	M-2	IL2RB, STAT3	
Suppression of helper T lymphocytes	M-2		IL10
Frequency of Th1 cells	M-2		IL10
Re-epithelialization	M-2		IL10
Morphogenesis of hair follicle	M-2		NFKBIA
Translocation of L-amino acid	M-2		SLC1A2
Loss of brain cells	M-2		SLC1A2
Writhing	M-2		IL10
Epithelial-mesenchymal transition of colorectal cancer cell lines	M-2		PDLIM1
Beta-oxidation of very long chain fatty acid	M-2		ABCD3
Length of colon	M-2	CD55	
Anoikis of intestinal cell lines	M-2		NFKBIA
Differentiation of M2c macrophages	M-2		IL10
Apoptosis of intestinal cell lines	M-2		NFKBIA
Apoptosis of BMMC cells	M-2		IL10
Regulation of osteoblasts	M-2	CYR61	
Activation of lamellipodia	M-2	PRKD1	
Formation of colony forming unit osteoblasts	M-2		FHL2
Density of synaptic vesicles	M-2	PRKCE	
Formation of palate	M-2		ITGAV
Priming of leukocyte cell lines	M-2		IL10
Adhesion of synovial fibroblasts	M-2		ITGAV
Proliferation of induced regulatory T-lymphocyte	M-2		IL10
Morphology of actin cytoskeleton	M-2		PDLIM1
Synthesis of thromboxane B2	M-2		IL10
Arrest in proliferation of leukocytes	M-2		IL10
Activation of vascular endothelial tissue	M-2		IL10
Morphology of sarcomere	M-2	PRKD1	
Morphology of Golgi apparatus	M-2	PRKD1	
Morphology of brain cells	M-2		SLC1A2
Survival of plasmacytoid dendritic cells	M-2		IL10

Differentiation of macrophage-like cells	M-2		IL10
Differentiation of naive B cells	M-2	STAT3	
Outgrowth of breast cancer cell lines	M-2	CYR61, STAT3	
Response of bronchial epithelial cells	M-2		TLR2
Mitogenesis of leukocytes	M-2	IL2RB, STAT3	
Development of memory natural killer cells	M-2	IL2RB, STAT3	
Synthesis of genomic DNA	M-2		NFKBIA
Onset of differentiation of cells	M-2	CYR61	
Injury of kidney cell lines	M-2		CLU
Arrest in proliferation of embryonic cell lines	M-2		NFKBIA
Stimulation of synovial fibroblasts	M-2		IL10
Cell movement of Th2 cells	M-2		IL10, RGS16
Beta-oxidation of lignoceric acid	M-2		ABCD3
Development of aortic arch	M-2		SEMA3C
Quantity of homocysteine	M-2		IL10
Development of cerebral cortex	M-2		SLC1A2
Fragmentation of nucleus	M-2		CLU
Movement of myeloma cell lines	M-2		CD82
Morphology of cerebral cortex cells	M-2		SLC1A2
Proliferation of bronchial epithelial cells	M-2		NFKBIA, TLR2
Quantity of cellular inclusion bodies	M-2		CRYAB
G1 phase of keratinocytes	M-2		NFKBIA
Response of lung cancer cell lines	M-2	STAT3	
Differentiation of Ab-secreting B cells	M-2		IL10
Co-stimulation of blood cells	M-2		CD82
Induction of PBMCs	M-2		IL10
Induction of naive T lymphocytes	M-2		IL10
Demethylation of DNA	M-2	STAT3	
Contraction of smooth muscle cells	M-2	PRKCE	
Translocation of glutamine family amino acid	M-2		SLC1A2
G1 phase of carcinoma cell lines	M-2	CYR61, PRKCE	
Re-epithelialization of skin	M-2		IL10
Polarization of macrophage cancer cell lines	M-2		IL10
Differentiation of cytotoxic T cells	M-2	IL2RB, STAT3	
Anoikis of prostate cancer cell lines	M-2		CD82
Oversecretion of mucus	M-2		IL10
Loss of cerebral cortex cells	M-2		SLC1A2
Recruitment of protein	M-2		TOLLIP
Contact growth inhibition of kidney cancer cell lines	M-2	STAT3	
Apoptosis of trophoblast cells	M-2		IL10

Generation of monocyte-derived dendritic cells	M-2			IL10
Proliferation of memory B cells	M-2			IL10
Quantity of Staphylococcus aureus	M-2			IL10, TLR2
Sprouting of sensory neurons	M-2			NFKBIA
Differentiation of effector cytotoxic T lymphocytes	M-2	IL2RB, STAT3		
Generation of Tr1 cells	M-2			IL10
Formation of brain	M-3		PRL	
Breakage of double-stranded DNA	M-3		PRL	
Proliferation of mammary duct	M-3		PRL	
G2/M phase transition of fibroblast cell lines	M-3		MXD1	
Proliferation of mammary alveolus	M-3		PRL	
Electrical resistance of breast cell lines	M-3		PRL	
Synthesis of steroid hormone	M-3		PRL	
Binding of hematopoietic progenitor cells	M-3		PRL	
Removal of cystine	M-3		PRL	
Budding of lobules of mammary gland	M-3		PRL	
Generation of actin filaments	M-3		PRL	
Generation of membrane ruffles	M-3		PRL	
Regulation of granulosa cells	M-3		PRL	
Remyelination of posterior funiculus	M-3		PRL	
Enlargement of prostate gland	M-3		PRL	
Differentiation of mammary gland	M-3		PRL	
Remyelination	M-3		PRL	
Synthesis of pregnenolone	M-3		PRL	
Morphogenesis of gland	M-3		PRL	
Synthesis of catecholamine	M-3		PRL	
Morphology of reproductive system	M-3		PRL	
Relaxation of artery	M-3		PRL	
Quantity of intramyocellular lipid store	M-3		PPP1R3C	
S phase of fibroblast cell lines	M-3		MXD1	
Arborization of mammary duct	M-3		PRL	
Generation of filaments	M-3		PRL	
Binding of T lymphocytes	M-3		PRL	
Branching of mammary gland	M-3		PRL	
Depletion of polysaccharide	M-3		PPP1R3C	
Growth of genital organ	M-3		PRL	
Growth of decidua	M-3		PRL	
Isovolumetric relaxation time of left ventricle	M-3		THBS4	
Differentiation of pulmonary alveolus	M-3		PRL	
Duplication of body axis	EGA1-1	LDLR		
Circulation of daunorubicin	EGA1-1	LDLR		
Morphology of osteoclasts	EGA1-1	LDLR		
Quantity of alpha-tocopherol phosphate	EGA1-1	LDLR		
Area of aortic valve	EGA1-1	LDLR		

Quantity of spirochete	EGA1-1	LDLR				
Deficiency of non-plasmacytoid dendritic cells	EGA1-1	LDLR				
Preservation of elastic lamina	EGA1-1	LDLR				
Conversion of bile acid	EGA1-1	LDLR				
Resorption of bone	EGA1-1	LDLR				
Thickness of tunica intima	EGA1-1	LDLR				
Morphology of fibrous cap	EGA1-1	LDLR				
Quantity of 1-palmitoyl-2-glutaroyl-sn-glycero-3-phosphorylcholine	EGA1-1	LDLR				
Function of aortic valve	EGA1-1	LDLR				
Quantity of 1-palmitoyl-2-(5-oxovaleroyl)-sn-glycero-3-phosphorylcholine	EGA1-1	LDLR				
Uptake of lipoprotein	EGA1-1	LDLR				
Maturation of connective tissue	EGA2-2					HMOX1
Repair of DNA	EGA2-2					HMOX1, XRCC5
Quantity of lung tissue	EGA2-2					HMOX1
Degradation of chromosomes	EGA2-2					XRCC5
Re-entry into M phase of lung cell lines	EGA2-2					XRCC5
Recovery of heart ventricle	EGA2-2					HMOX1
Damage of cellular membrane	EGA2-2					HK2, HMOX1
Oxidative stress response of macrophage cancer cell lines	EGA2-2					HMOX1
Transmembrane transport of D-glucose	EGA2-2					HK2
Quantity of LH	EGA2-2					HMOX1
Radiosensitivity of lung cell lines	EGA2-2					XRCC5
Colony formation of Helicobacter pylori 10700	EGA2-2					HMOX1
Binding of mitochondria	EGA2-2					HK2
Quantity of carcinoma cell lines	EGA2-2					HMOX1
Maturation of satellite cells	EGA2-2					HMOX1
Polyploidization of colorectal cancer cell lines	EGA2-2					XRCC5
Contraction of arteriole	EGA2-2					HMOX1
Maturation of osteoclasts	EGA2-2					HMOX1
Healing of gastric mucosa	EGA2-2					HMOX1
Disassembly of actin filaments	EGA2-2			CAP1		
Stabilization of chromosomes	EGA2-2					XRCC5
Breakdown of heme	EGA2-2					HMOX1
Oxidative stress response of melanoma cell lines	EGA2-2					HMOX1
Fusion of chromosomes	EGA2-2					XRCC5
Cell viability of stem cells	EGA2-2					XRCC5
Dissociation of chromosomes	EGA2-2					XRCC5
Stimulation of CD8+ T lymphocyte	EGA2-2					HMOX1
Oxidative stress response of tumor cell lines	EGA2-2					HMOX1
S phase of carcinoma cell lines	EGA2-2					HMOX1
Generation of bilirubin	EGA2-2					HMOX1
Deposition of vascular smooth muscle cells	EGA2-2					HMOX1
Accumulation of vascular smooth muscle cells	EGA2-2					HMOX1

Quantity of lung cancer cell lines	EGA2-2				HMOX1
Double-stranded DNA break repair of cells	EGA2-2				XRCC5
S phase of lung cancer cell lines	EGA2-2				HMOX1
Apoptosis of gastric mucous cells	EGA2-2				HMOX1
Survival of smooth muscle cell lines	EGA2-2				HMOX1
Concentration of reactive oxygen species	EGA2-2				HMOX1
Cleavage of heme	EGA2-2				HMOX1
Maturation of bone marrow-derived immature dendritic cells	EGA2-2				HMOX1
Maturation of myoblasts	EGA2-2				HMOX1
Formation of gamma H2AX nuclear focus	EGA2-2				HMOX1, XRCC5
Injury of mitochondrial membrane	EGA2-2				HK2
Radiosensitivity of tumor cell lines	EGA2-2				XRCC5
Viability	EGA2-2				XRCC5
Translocation of chromosomes	EGA2-2				XRCC5
Thickness of fibrous cap	EGA2-2				HMOX1
Homeostasis of bilirubin	EGA2-2				HMOX1
Conversion of heme	EGA2-2				HMOX1
Oxidation of heme	EGA2-2				HMOX1
Secretion of taurocholic acid	EGA2-2				HMOX1
Phosphorylation of glucose-6-phosphate	EGA2-2				HK2
Survival of heart	EGA2-2				HK2, HMOX1
Invasion of stomach cancer cell lines	EGA2-4			FBLN1	
Invasion of fibroblast cell lines	EGA2-4			FBLN1	
Formation of kidney	EGA2-4			FBLN1	
Metabolism of lamivudine	EGA2-4		PGK1		
Formation of pulmonary alveolus	EGA2-4			FBLN1	
Organization of podocytes	EGA2-4			FBLN1	
Colony formation of stomach cancer cell lines	EGA2-4			FBLN1	
Formation of renal glomerulus	EGA2-4			FBLN1	
Development of tumor cell lines	EGA3-4			ATF3	
Differentiation of adipocytes	EGA3-4			ATF3	
Delay in organismal death	EGA3-4			ATF3	
Invasion of ovarian cancer cell lines	EGA3-4			ATF3	
Chemotaxis of vascular smooth muscle cells	EGA3-4			TRIB1	
Steroidogenesis of hormone	EGA3-4			ATF3	
Spermatogenesis	EGA3-4			RDH10	
Synthesis of hormone	EGA3-4			ATF3	
Colony formation of ovarian cancer cell lines	EGA3-4			ATF3	
Migration of bladder cancer cell lines	EGA3-4			ATF3	
Conversion of retinol	EGA3-4			RDH10	
Formation of testis	EGA3-4			RDH10	
Colony formation of fibroblasts	EGA3-4			ATF3	

Adipogenesis of triacylglycerol	EGA3-4				TRIB1	
Regeneration of peripheral nerve	EGA3-4				ATF3	
Elongation of neurites	EGA3-4				ATF3	
Mass of epididymal fat	EGA3-4				TRIB1	
Cell movement of vascular smooth muscle cells	EGA3-4				ATF3, TRIB1	
Colony survival of lung cancer cell lines	EGA3-4				ATF3	
Formation of skin	EGA3-4				RDH10	
Proliferation of vascular smooth muscle cells	EGA3-4				TRIB1	
Metabolism of terpenoid	EGA3-4				ATF3, RDH10	
Differentiation of spermatogonia	EGA3-4				RDH10	
Development of forelimb	EGA3-4				RDH10	
Apoptosis of fibroblasts	EGA3-4				ATF3	
Development of liver	EGA3-4				RDH10	
Modification of chromatin	EGA3-4				ATF3	
Concentration of cholesterol	EGA3-4				TRIB1	
G1/S phase transition of fibroblasts	EGA3-4				ATF3	
Size of atrium	EGA3-4				ATF3	
Apoptosis of leukocytes	EGA3-4				ATF3	
Function of mitochondria	EGA3-4				ATF3	
Secretion of triacylglycerol	EGA3-4				ATF3	
Morphology of embryonic cell lines	EGA3-4				ATF3	
Synthesis of tretinoin	EGA3-4				RDH10	
Tubulogenesis of endothelial cell lines	EGA3-4				ATF3	
Apoptosis of bone marrow-derived mast cells	EGA3-4				ATF3	
Mass of adipose tissue	EGA3-4				ATF3, TRIB1	
Tubulogenesis	EGA3-4				ATF3	
Morphology of fibroblast cell lines	EGA3-4				ATF3	
Adipogenesis	EGA3-4				TRIB1	
Conduction of heart	EGA3-4				ATF3	
Excision repair	EGA3-4				ATF3	
Differentiation of eosinophils	EGA3-4				TRIB1	
Apoptosis of superior cervical ganglion neurons	EGA3-4				ATF3	
G1/S phase transition	EGA3-4				ATF3	
Development of endocrine region of pancreas	EGA3-4				ATF3	
Transport of mitochondria	EGA3-4				ATF3	
Development of digestive system	EGA3-4				ATF3, RDH10	
Cell movement of hepatoma cell lines	EGA4-1		SPP1			
Quantity of blood vessel	EGA4-1					BMP2
Branching of axons	EGA4-1	APP				
Axonogenesis	EGA4-1	APP				
Cell viability of central nervous system cells	EGA4-1	APP				
Quantity of glycosphingolipid	EGA4-1	APP				
Differentiation of oligodendrocytes	EGA4-1					BMP2
Cell viability of brain cells	EGA4-1	APP				

Quantity of actin filaments	EGA4-1		SPP1	
Metabolism of hydrogen peroxide	EGA4-1	APP		
Accumulation of glycosphingolipid	EGA4-1	APP		
Apoptosis of bone marrow cell lines	EGA4-1			BMP2
Accumulation of polysaccharide	EGA4-1			APOA1, BMP2
Quantity of brain cells	EGA4-1	APP		
Apoptosis of pheochromocytoma cell lines	EGA4-1	APP		
Signaling of cells	EGA4-1	APP, IL2RG		
Synthesis of cartilage matrix	EGA4-1			BMP2
Mass of skeletal muscle	EGA4-1		SPP1	
Excitation of neurons	EGA4-1	APP		
Neurogenesis of hippocampus	EGA4-1	APP		
Development of chondrocytes	EGA4-1			BMP2, GRN
Migration of multiple myeloma cells	EGA4-1		SPP1	
Inhibition of mRNA	EGA4-1			BMP2
Distribution of lipid	EGA4-1	APP		
Adhesion of neuroglia	EGA4-1	APP		
Chondrogenesis of fibroblast cell lines	EGA4-1			BMP2, GRN
Catabolism of hydrogen peroxide	EGA4-1	APP		
Size of leukocytes	EGA4-1	APP, IL2RG		
Chondrogenesis of embryonic cell lines	EGA4-1			BMP2, GRN
Pyknosis	EGA4-1	APP		
Diameter of cells	EGA4-1		SPP1	
Thickening of basement membrane	EGA4-1	APP		
Release of hydrogen peroxide	EGA4-1			GRN
Recruitment of phospholipid	EGA4-1			APOA1
Morphology of trabecular bone	EGA4-1			BMP2
Binding of phospholipid	EGA4-1	APP		
Mass of extensor muscle	EGA4-1		SPP1	
Neurogenesis of brain cells	EGA4-1	APP		
Neuroprotection of tumor cell lines	EGA4-1	APP		
Cell viability of vascular smooth muscle cells	EGA4-1	APP		
Density of microglia	EGA4-1	APP		
Modification of connective tissue	EGA4-1			BMP2, GRN
Accumulation of glycogen	EGA4-1			APOA1
Mitogenesis of fibroblast cell lines	EGA4-1			BMP2
Density of macrophages	EGA4-1	APP		
Regeneration of bone	EGA4-1			BMP2, GRN
Diameter of myofiber	EGA4-1		SPP1	
Quantity of neuroblasts	EGA4-1	APP		
Generation of embryonic cell lines	EGA4-1			BMP2, GRN
Quantity of ganglioside GD3	EGA4-1	APP		
Volume of cerebrum	EGA4-1	APP		
Proliferation of cerebral cortex cells	EGA4-1			BMP2
Stimulation of red blood cells	EGA4-1			BMP2

Aggregation of filaments	EGA4-1	APP				
Movement of endocrine cell lines	EGA4-1		SPP1			
Surface area of bone	EGA4-1	APP				
Deposition of proteoglycan	EGA4-1					BMP2
Binding of embryonic cell lines	EGA4-1					TIMP3
Binding of fibroblasts	EGA4-1		SPP1			
Cytotoxicity of neurons	EGA4-1	APP				
Differentiation of cholinergic neurons	EGA4-1					BMP2
Distribution of cholesterol	EGA4-1	APP				
Stimulation of brain cells	EGA4-1	APP				
Context memory	EGA4-1	APP				
Oxidation of cholesterol	EGA4-1	APP				
Stimulation of chondrocytes	EGA4-1					BMP2
Length of muscle cells	EGA4-1		SPP1			
Differentiation of stromal cell lines	EGA4-1					BMP2
Morphology of skeletal muscle	EGA4-1		SPP1			
Area of cells	EGA4-1	APP				
Growth of metatarsal bone	EGA4-1					BMP2, GRN
Cell movement of endothelial cells	EGA4-2				ADAMTS1, CDH2	
Migration of prostate cancer cell lines	EGA4-2				CAPN2	
Cell movement of fibrosarcoma cell lines	EGA4-2				CDH2	
Polarization of cells	EGA4-2				CDH2	
Cell movement of sarcoma cell lines	EGA4-2				CAPN2, CDH2	
Migration of vascular endothelial cells	EGA4-2				ADAMTS1	
Chemotaxis of tumor cell lines	EGA4-2				CAPN2	
Extension of cellular protrusions	EGA4-2				CDH2	
Cell death of trophoblast	EGA4-2				CAPN2	
Cell death of endothelial cell lines	EGA4-2				CDH2, CTSD	
Fertility	EGA4-2				ADAMTS1	
Aggregation of myoblasts	EGA4-2				CDH2	
Tubulation by bone cancer cell lines	EGA4-2				ADAMTS1	
Quantity of vessel	EGA4-2				ADAMTS1, BMPR2	
Thickness of arterial wall	EGA4-2				BMPR2	
Assembly of fibroblast cell lines	EGA4-2				CDH2	
Detachment of cells	EGA4-2				CAPN2	
Size of heart	EGA4-2				CDH2	
Epithelial to mesenchymal transdifferentiation of lung cancer cell lines	EGA4-2				BMPR2	
Delay in cell death of T lymphocytes	EGA4-2				CTSD	
Structure of synapse	EGA4-2				CDH2	
Collapse of growth cone	EGA4-2				CAPN2	
Epithelial to mesenchymal transdifferentiation of carcinoma cell lines	EGA4-2				BMPR2	
Shrinkage of fibroblasts	EGA4-2				CTSD	
Assembly of ovarian cancer cell lines	EGA4-2				CDH2	

Development of adrenal medulla	EGA4-2		ADAMTS1
Migration of bone cancer cell lines	EGA4-2		CAPN2
Proteolysis of peptide	EGA4-2		CTSD
Morphogenesis of head	EGA4-2		CDH2
Binding of mural cells	EGA4-2		CDH2
Cell movement of neuroblastoma cell lines	EGA4-2		CAPN2
Outgrowth of fibroblasts	EGA4-2		CTSD
Morphology of vessel component	EGA4-2		BMPR2
Cell movement of lung cancer cell lines	EGA4-2		BMPR2
Morphology of yolk sac	EGA4-2		CDH2
Deadhesion of cells	EGA4-2		CAPN2
Replication of cells	EGA4-2		CTSD
Size of renal calyx	EGA4-2		ADAMTS1
Size of pericardial cavity	EGA4-2		CDH2
Transmigration of T lymphocytes	EGA4-2		BMPR2
Hydrolysis of proteoglycan	EGA4-2		CTSD
Aggregation of ventricular myocytes	EGA4-2		CDH2
Innervation of forelimb	EGA4-2		BMPR2
Morphogenesis of medial ganglionic eminences	EGA4-2		CDH2
Formation of adipose tissue	EGA4-2		ADAMTS1
Cell spreading of bone cancer cell lines	EGA4-2		CAPN2
Aggregation of cortical neurons	EGA4-2		CDH2
Accumulation of breast cancer cell lines	EGA4-2		BMPR2
Contact growth inhibition of endothelial cell lines	EGA4-2		BMPR2
Angiogenesis of chorioallantoic membrane	EGA4-2		ADAMTS1
Transmigration of lymphocytes	EGA4-2		BMPR2
Degradation of autophagosomes	EGA4-2		CTSD
Morphogenesis of kidney	EGA4-2		ADAMTS1
Formation of connective tissue	EGA4-2		ADAMTS1
Tubulation by sarcoma cell lines	EGA4-2		ADAMTS1
Replicative senescence of fibroblast cell lines	EGA4-4		NID2
Formation of plasma membrane	M-1	CTNNB1, DLG4, NCAM1	CTNNB1, MPP7
Dendritic growth/branching	M-1	CTNNB1, DLG4, DYRK1A, GNAO1, NOS1, PAK1, PSEN1, PSEN2, RELN, RYR2	CAV1, CTNNB1, RELN
Shape change of neurites	M-1	CTNNB1, DLG4, DYRK1A, GNAO1, NCAM1, NOS1, PAK1, PSEN1, PSEN2, RELN, RYR2	CAV1, CTNNB1, EGR3, RELN
Cognition	M-1	EGR1, GRIN2A, GRIN2B, NCAM1, PSEN1	EGR1, ESR2, SYNPO

Assembly of intercellular junctions	M-1		CTNNB1, DLG4, NCAM1	CTNNB1, MPP7	
Development of gap junctions	M-1		CTNNB1, DLG4, NCAM1	CTNNB1	
Shape change of neurons	M-1		CTNNB1, DLG4, DYRK1A, GNAO1, NCAM1, NOS1, PAK1, PSEN1, PSEN2, RELN, RYR2	CAV1, CTNNB1, EGR3, RELN	
Developmental process of synapse	M-1		CTNNB1, DLG4, NCAM1	CTNNB1	
Formation of intercellular junctions	M-1		CTNNB1, DLG4, NCAM1	CTNNB1, MPP7	
Cytostasis	M-1		CTNNB1, EGR1, PAK1, RBPJ	ASB2, BMP4, CAV1, CTNNB1, EGR1, IGF1R, JAG1, MXD1, SFRP4, TIMP1	
Formation of cell-cell contacts	M-1		CTNNB1, DLG4, NCAM1	CTNNB1, MPP7	
Migration of neurons	M-1		CTNNB1, DLG4, NOS1, PSEN1, RELN, TOP2B	BMP4, CTNNB1, IGF1R, RELN	
Proliferation of lymphatic system cells	M-2	CD55, IL2RB, PRKCE, PRKD1, STAT3			IL10, NFKBIA, TLR2
Migration of smooth muscle cells	M-2	CYR61, STAT3			CLU, FHL2, TLR2
Formation of brain	M-1		CTNNB1, DLG4, EGR1, GNAO1, NCAM1, PSEN1, RELN, STXBP1	CTNNB1, EGR1, RELN, ST8SIA4	
Growth of dendrites	M-1		PAK1, RELN	CAV1, RELN	
Proliferation of immune cells	M-2	CD55, IL2RB, PRKCE, PRKD1, STAT3			IL10, NFKBIA, TLR2
Proliferation of lymphocytes	M-2	CD55, IL2RB, PRKCE, PRKD1, STAT3			IL10, NFKBIA, TLR2
Cytostasis of tumor cell lines	M-1		CTNNB1, EGR1, RBPJ	BMP4, CAV1, CTNNB1, EGR1, IGF1R, JAG1, MXD1, SFRP4	
Long term depression of hippocampal CA1 region	M-1		DLG4, GRIN2B, RYR3	ST8SIA4	
Cell proliferation of T lymphocytes	M-2	CD55, IL2RB, PRKCE, PRKD1, STAT3			IL10, NFKBIA, TLR2
NK cell development	M-2	IL2RB, STAT3			IL10
Interaction of tumor cell lines	M-1		CTNNB1, CYTIP, EGR1, NCAM1, PAK1	CAV1, CTNNB1, EGR1, EGR3, IGF1R, IGFBP3, SFRP4	
Production of lymphocytes	M-2	IL2RB			NFKBIA
Differentiation of carcinoma cell lines	M-1		EGR1	EGR1	
Cell movement of dermal cells	M-2	STAT3			ITGAV
Function of intercellular junctions	M-1		DLG4, PSEN1	MPP7	
Long term depression of CA1 neuron	M-1		DLG4, RYR3	ST8SIA4	
Quantity of vesicles	M-1		EGR1	CAV1, EGR1	
Synthesis of eicosanoid	M-2	PRKD1, STAT3			CLU, IL10, NFKBIA, TLR2
Quantity of endocrine cells	M-1		CTNNB1	CTNNB1, IGF1R	
Concentration of acylglycerol	M-2	PRKCE			IL10

Formation of actin filaments	M-1			GNAO1, GNG2, PAK1	BMP4, CAV1, JAG1, TPM1	
Differentiation of germ cell tumor cell lines	M-1			EGR1	EGR1	
Cell movement of keratinocytes	M-2	STAT3				ITGAV
Analgesia	M-2	PRKCE				IL10
Adhesion of vascular endothelial cells	M-2	CYR61				NFKBIA
Migration of central nervous system cells	M-1			RELN	BMP4, IGF1R, RELN, ST8SIA4	
Contact growth inhibition	M-1			CTNNB1, EGR1, PAK1	BMP4, CTNNB1, EGR1, IGF1R, MXD1, TIMP1	
NK cell proliferation	M-2	IL2RB, STAT3				IL10
Cell movement of fibroblasts	M-1			CTNNB1, ENPP2	CAV1, CTNNB1, ENPP2	
Cell cycle progression of tumor cell lines	M-1			EGR1, PSEN1, PSEN2	BMP4, CAV1, EGR1, IGF1R, IGFBP3	
Adhesion of breast cancer cell lines	M-1			PAK1	IGF1R	
Recombination	M-1			RELN	RELN	
Quantity of interneurons	M-1			GNAO1	ESR2	
Migration of brain cells	M-1			RELN	BMP4, IGF1R, RELN, ST8SIA4	
Contact growth inhibition of tumor cell lines	M-1			CTNNB1, EGR1	BMP4, CTNNB1, EGR1, IGF1R, MXD1	
Apoptosis of synovial cells	M-2	STAT3				CLU, NFKBIA, TNFAIP8
Synthesis of prostaglandin	M-2	PRKD1, STAT3				CLU, IL10, NFKBIA
Cell death of germ cells	M-1			EGR1	EGR1, IGFBP3	
Cell death of lymphoma cell lines	M-2	CD55, STAT3				IL10, NFKBIA
Cell cycle progression of fibroblast cell lines	M-1		RUNX2		CAV1, MXD1, RUNX2	
Adhesion of epithelial cells	M-2	STAT3				CLU, ITGAV
Cell movement of brain cells	M-1			RELN	BMP4, IGF1R, RELN, ST8SIA4, TIMP1	
Cytostasis of breast cancer cell lines	M-1			CTNNB1	CTNNB1, IGF1R	
Destabilization of microtubules	M-1			EGR1	EGR1	
Respiratory system development	M-1			CTNNB1, GNAO1	BMP4, CAV1, CTNNB1, ESR2	
Aggregation of tumor cell lines	M-1			CTNNB1, NCAM1	CTNNB1, IGF1R	
Cell movement of central nervous system cells	M-1			RELN	BMP4, CAV1, IGF1R, RELN, ST8SIA4, TIMP1	
Cell death of gonadal cells	M-1			CTNNB1, EGR1	CTNNB1, EGR1, IGFBP3	
Permeability of vascular system	M-1			CTNNB1, GNAO1, PAK1	CTNNB1	
Incorporation of amino acids	M-1			RELN	IGFBP3, RELN	
Migration of ovarian cancer cell lines	M-1			PAK1	ESR2, SFRP4	
Contact growth inhibition of breast cancer cell lines	M-1			CTNNB1	CTNNB1, IGF1R	
Proliferation of synovial cells	M-2	CYR61, STAT3				IL10, TNFAIP8
Quantity of amino acids	M-2	PRKCE				IL10, SLC1A2
Interphase of cervical cancer cell lines	M-1			CTNNB1, PSEN1, PSEN2	CTNNB1	

Quantity of focal adhesions	M-1			CTNNB1	CAV1, CTNNB1, TIMP1	
Senescence of epithelial cell lines	M-1			CTNNB1	BMP4, CTNNB1	
Release of nitric oxide	M-2	STAT3				TLR2, TOLLIP
Development of body axis	M-2	STAT3				CRYAB, NFKBIA, SLC1A2, TLR2
Development of regulatory T lymphocytes	M-2	IL2RB, STAT3				IL10, NFKBIA, TLR2
Relaxation of muscle	M-1			NOS1	TPM1	
Cell-cell adhesion	M-1			CTNNB1, PSEN1	CTNNB1, TIMP1	
Disruption of actin cytoskeleton	M-1			HLA-E	CAV1, IGF1R	
Quantity of pulmonary alveolus	M-1		RUNX2		ESR2, RUNX2	
Apoptosis of hepatoma cell lines	M-2	STAT3				CLU, NFKBIA, SPOCK1
Response of CD4+ T-lymphocytes	M-2	STAT3				IL10
Production of protein	M-2	PRKCE, STAT3				IL10, NFKBIA, TLR2
Production of cytokine	M-2	PRKCE, STAT3				IL10, TLR2
Cell death of fibroblasts	M-2	STAT3				CLU, IL10, NFKBIA, TNFAIP8
Necrosis of prostate cancer cell lines	M-2	PRKCE, STAT3				CD82, CLU, NFKBIA
Quantity of alveolar epithelium	M-1		RUNX2		ESR2, RUNX2	
Arrest in G2 phase of skin cancer cell lines	M-1			CTNNB1	CTNNB1	
Patterning of vessel	M-1			CTNNB1	CTNNB1	
Metabolism by thymocytes	M-1			EGR1	EGR1, EGR3	
Cell-cell adhesion of breast cell lines	M-1			CTNNB1	CTNNB1	
Morphology of right ventricle	M-1		HEY2		CAV1	
Formation of microspikes	M-1			GNAO1	VAV3	
Morphology of nervous system	M-1			CTNNB1, DLG4, DYRK1A, EGR1, NCAM1, PAK1, PSEN1, RELN	BMP4, CTNNB1, EGR1, EGR3, ESR2, IGF1R, RELN	
Quantity of neurofibrillary tangles	M-1			PSEN1, RELN	RELN	
Synapsis	M-1			RELN	RELN	
Patterning of embryo	M-1			CTNNB1, PSEN1, PSEN2	CTNNB1	
Cell-cell adhesion of kidney cell lines	M-1			CTNNB1	CTNNB1, TIMP1	
Morphology of exocrine cells	M-1			CTNNB1	CAV1, CTNNB1	
Conversion of choline-phospholipid	M-1			ENPP2	ENPP2	
Development of extraembryonic ectoderm	M-1			CTNNB1	CTNNB1	
Delay in growth of organism	M-1			DYRK1A	ST8SIA4	
Formation of occipital bone	M-1		RUNX2		RUNX2	
Differentiation of hair cells	M-1			CTNNB1	CTNNB1	
Volume of trabecular bone	M-1		HEY2	NOS1		
Homing of helper T lymphocytes	M-2	STAT3				IL10
Morphology of tumor cell lines	M-2	PRKCE, STAT3				CLU, NFKBIA
G1 phase of epidermal cells	M-2	STAT3				NFKBIA
Cell viability of hippocampal neurons	M-2	STAT3				NFKBIA
Production of mucus	M-2	STAT3				NFKBIA
G1/S phase transition of epidermal cells	M-2	STAT3				NFKBIA

Apoptosis of endometrial cancer cell lines	M-2	CYR61		IL10
Killing of Leishmania major	M-2	PRKCE		IL10
Suppression of bone marrow-derived dendritic cells	M-2	STAT3		IL10
Cell movement of helper T lymphocytes	M-2	STAT3		IL10, RGS16
Cell movement of prostate cell lines	M-2	CYR61, STAT3		CLU
Induction of antigen presenting cells	M-2	CYR61		IL10
Development of artery	M-2	STAT3		SEMA3C
Catabolism of D-glucose	EGA1-1	MYC	MYC	
Myelination of central nervous system	EGA1-1	MYC	MYC	
G1 phase of lung cell lines	EGA1-1	MYC	MYC	
Arrest in cell cycle progression of B lymphocytes	EGA1-1	MYC	MYC	
Delay in cell cycle progression of fibroblast cell lines	EGA1-1	MYC	MYC	
Entry into mitosis of fibroblast cell lines	EGA1-1	MYC	MYC	
Entry into cell cycle progression of fibroblast cell lines	EGA1-1	CCND1, MYC	CCND1, MYC	
Entry into S phase of epithelial cell lines	EGA1-1	CCND1, MYC	CCND1, MYC	
Size of hepatocytes	EGA1-1	CCND1, MYC	CCND1, MYC	
Rearrangement of chromosomes	EGA1-1	MYC	MYC	
Cloning of cells	EGA1-1	CCND1, MYC	CCND1, MYC	
Delay in cell cycle progression	EGA1-1	MYC	MYC	
G1 phase of fibroblast cell lines	EGA1-1	CCND1, MYC	CCND1, MYC	
Apoptosis of squamous cell carcinoma cell lines	EGA1-1	CCND1, MYC	CCND1, MYC	
Stimulation of fibroblast cell lines	EGA1-1	CCND1, MYC	CCND1, MYC	
Colony survival of tumor cell lines	EGA1-1	CCND1	CCND1	
Arrest in proliferation of lung cell lines	EGA1-1	MYC	MYC	
Repair of cervical cancer cell lines	EGA1-1	CCND1	CCND1	
Transcription of mRNA	EGA1-1	LDLR, MYC	MYC	
G1 phase of kidney cell lines	EGA1-1	CCND1, MYC	CCND1, MYC	
Size of tumor cell lines	EGA1-1	CCND1, MYC	CCND1, MYC	
Accumulation of tumor cell lines	EGA1-1	CCND1	CCND1	
Synthesis of rRNA	EGA1-1	MYC	MYC	
Cell survival of tumor cell lines	EGA1-1	CCND1	CCND1	
Depletion of ATP	EGA1-1	MYC	MYC	
Proliferation of synovial fibroblasts	EGA1-1	CCND1, MYC	CCND1, MYC	
Incorporation of octanoic acid	EGA1-1	MYC	MYC	
G1 phase of uterine cell lines	EGA1-1	CCND1	CCND1	
Ploidy of keratinocytes	EGA1-1	MYC	MYC	
Cloning of melanoma cell lines	EGA1-1	MYC	MYC	
Gene amplification of B-lymphocyte derived cell lines	EGA1-1	MYC	MYC	
Mitosis of Schwann cells	EGA1-1	CCND1	CCND1	
Size of lymphatic sinus	EGA1-1	MYC	MYC	

Entrance of DNA	EGA1-1	MYC	MYC
Entry into S phase of melanoma cell lines	EGA1-1	CCND1	CCND1
Polyploidization of B-lymphocyte derived cell lines	EGA1-1	MYC	MYC
Formation of extrachromosomal cores	EGA1-1	MYC	MYC
Flow of lymphatic fluid	EGA1-1	MYC	MYC
Quantity of lymphatic sinus	EGA1-1	MYC	MYC
Initiation of differentiation of epidermal cells	EGA1-1	MYC	MYC
Proliferation of photoreceptors	EGA1-1	CCND1	CCND1
Replicative senescence of ovarian cancer cell lines	EGA1-1	MYC	MYC
Killing of B cell hybridoma cells	EGA1-1	MYC	MYC
Formation of replication fork	EGA1-1	MYC	MYC
Arrest in G1/S phase transition of endothelial cell lines	EGA1-1	MYC	MYC
Cell division of lymphoma cell lines	EGA1-1	MYC	MYC
Delay in G1/S phase transition of chondrocytes	EGA1-1	CCND1	CCND1
Elimination of leukemia cell lines	EGA1-1	MYC	MYC
Immortalization of leukocyte cell lines	EGA1-1	MYC	MYC
Arrest in G1/S phase transition of breast cell lines	EGA1-1	MYC	MYC
Maturation of lymphatic system cells	EGA1-1	CCND1, MYC	CCND1, MYC
Activation of mitochondria	EGA1-1	CCND1, MYC	CCND1, MYC
Arrest in G2/M phase transition	EGA1-1	CCND1, MYC	CCND1, MYC
Entry into S phase of fibroblasts	EGA1-1	CCND1, MYC	CCND1, MYC
Interphase of melanoma cell lines	EGA1-1	CCND1, MYC	CCND1, MYC
Morphology of mitotic spindle	EGA1-1	CCND1	CCND1
Entry into S phase of fibroblast cell lines	EGA1-1	CCND1, MYC	CCND1, MYC
Accumulation of glutamine	EGA1-1	MYC	MYC
Catabolism of glutamine	EGA1-1	MYC	MYC
DNA damage response of colorectal cancer cell lines	EGA1-1	CCND1	CCND1
Differentiation of cholangiocarcinoma cell lines	EGA1-1	MYC	MYC
Arrest in G2/M phase transition of keratinocytes	EGA1-1	MYC	MYC
Senescence of B lymphocytes	EGA1-1	MYC	MYC
Reactivation of fibroblasts	EGA1-1	CCND1	CCND1
Entry into S phase of intestinal cell lines	EGA1-1	CCND1	CCND1
Initiation of alveolization	EGA1-1	CCND1	CCND1
Arrest in G0/G1 phase transition of endothelial cells	EGA1-1	CCND1	CCND1
Accumulation of skin cancer cell lines	EGA1-1	CCND1	CCND1
Beta-oxidation of octanoic acid	EGA1-1	MYC	MYC
Expansion of pro-B lymphocytes	EGA1-1	MYC	MYC
Radioresistance of hepatoma cell lines	EGA1-1	CCND1	CCND1
Cloning of fibroblast cell lines	EGA1-1	CCND1	CCND1

Mid-G1 phase	EGA1-1	MYC	MYC		
Arrest in G0/G1 phase transition of rhabdoid cell lines	EGA1-1	CCND1	CCND1		
Termination of cell cycle progression of fibroblasts	EGA1-1	MYC	MYC		
Senescence of B-lymphoid cells	EGA1-1	MYC	MYC		
Radioresistance of cervical cancer cell lines	EGA1-1	CCND1	CCND1		
Killing of macrophage cancer cell lines	EGA1-1	MYC	MYC		
Accumulation of colonocytes	EGA1-1	MYC	MYC		
Cell cycle progression of brain cancer cell lines	EGA1-1	MYC	MYC		
Size of brain cancer cell lines	EGA1-1	MYC	MYC		
Arrest in G1 phase of embryonic cell lines	EGA1-1	CCND1, MYC	CCND1, MYC		
Arrest in interphase of kidney cell lines	EGA1-1	CCND1, MYC	CCND1, MYC		
Mass of mitochondria	EGA1-1	CCND1, MYC	CCND1, MYC		
Proliferation of lung cell lines	EGA1-1	MYC	MYC		
G1 phase of fibroblasts	EGA1-1	CCND1, MYC	CCND1, MYC		
Size of lymphatic system cells	EGA1-1	CCND1, MYC	CCND1, MYC		
Maturation of lymphocytes	EGA1-1	MYC	MYC		
Delay in initiation of differentiation of induced pluripotent stem cells	EGA1-1	MYC	MYC		
Deletion of chromosomes	EGA1-1	MYC	MYC		
Colony survival of lymphoma cell lines	EGA1-1	CCND1	CCND1		
Stimulation of embryonic cell lines	EGA1-1	MYC	MYC		
Synthesis of acetyl-coenzyme A	EGA1-1	MYC	MYC		
Size of lymphoma cell lines	EGA1-1	MYC	MYC		
Cell polarity formation of colorectal cancer cell lines	EGA1-1	MYC	MYC		
Arrest in G1 phase of erythroblasts	EGA1-1	MYC	MYC		
Homologous recombination repair of cervical cancer cell lines	EGA1-1	CCND1	CCND1		
Delay in cell cycle progression of epithelial cell lines	EGA1-1	MYC	MYC		
Poly(ADP-ribosyl)ation of protein	EGA1-1	MYC	MYC		
Arrest in cell cycle progression of hepatocytes	EGA1-1	CCND1	CCND1		
Outgrowth of ovarian cancer cell lines	EGA1-1	CCND1	CCND1		
Development of organ of Corti	EGA1-1	MYC	MYC		
Homing of inflammatory leukocytes	EGA1-1	MYC	MYC		
Cell cycle progression of skeletal muscle satellite cells	EGA1-1	CCND1	CCND1		
Differentiation of sebocytes	EGA1-1	MYC	MYC		
Initiation of S phase	EGA1-1	CCND1, MYC	CCND1, MYC		
Expansion of hematopoietic progenitor cells	EGA1-1	CCND1, MYC	CCND1, MYC		
Meiotic nondisjunction	EGA1-1	CCND1, MYC	CCND1, MYC		
Self-renewal of cells	EGA1-1	MYC	MYC		
Cell death of sarcoma cell lines	EGA2-2			HSPA5	HSPA5

Synthesis of protein	EGA2-2		HSPA5		HSPA5
Translation	EGA2-2		HSPA5		HSPA5
Cell death of immune cells	EGA2-4		PMAIP1	PMAIP1	
Cell proliferation of carcinoma cell lines	EGA2-2		YWHAZ		HK2, HMOX1, YWHAZ
Cell viability of mast cells	EGA2-2		YWHAZ		YWHAZ
Cell viability of leukemia cell lines	EGA2-2		HSPA5		HSPA5
Folding of protein	EGA2-2		HSPA5, HSPA8		HSPA5, HSPA8
Import of DNA	EGA2-2		HSPA8		HSPA8
Cell viability of leukocyte cell lines	EGA2-2		YWHAZ		HMOX1, YWHAZ
Stress response of tumor cell lines	EGA2-2		HSPA5		HMOX1, HSPA5
Cell viability of endothelial cells	EGA2-2		HSPA5		HMOX1, HSPA5
Permeability transition of mitochondria	EGA2-2		HSPA5		HSPA5
Dissociation of vesicles	EGA2-2		HSPA8		HSPA8
Synthesis of neurotransmitter	EGA2-2		YWHAZ		YWHAZ
Binding of ribosome	EGA2-2		HSPA5		HSPA5
Concentration of linoleic acid	EGA2-2		HSPA5		HSPA5
Transport of calcifediol	EGA2-2		HSPA8		HSPA8
Uptake of calcifediol	EGA2-2		HSPA8		HSPA8
Differentiation of embryonic tissue	EGA2-4		HAND1	HAND1	
Cell death of ovarian cancer cell lines	EGA2-4		PMAIP1	PMAIP1	
Mitochondrial membrane potential	EGA2-4		PMAIP1	PMAIP1	
Opening of permeability transition pores	EGA2-4		PMAIP1	PMAIP1	
Recruitment of vascular smooth muscle cells	EGA2-4		HAND1	HAND1	
Apoptosis of B-lymphocyte derived cell lines	EGA2-4		PMAIP1	PMAIP1	
Quantity of colorectal cancer cell lines	EGA2-4		PMAIP1	PMAIP1	
Expansion of natural killer cells	EGA2-4		PMAIP1	PMAIP1	
Remodeling of heart	EGA2-4		HAND1	HAND1	
Cell viability of germ cell tumor cell lines	EGA2-4		PMAIP1	PMAIP1	
Cell death of heart tissue	EGA2-4		HAND1	HAND1	
Development of interventricular sulcus	EGA2-4		HAND1	HAND1	
Sudden death	EGA2-4		HAND1	HAND1	
Development of lateral plate mesoderm	EGA2-4		HAND1	HAND1	
Transmembrane potential of mitochondria	EGA2-4		HAND1, PMAIP1	HAND1, PMAIP1	
Apoptosis of germ cell tumor cell lines	EGA2-4		PMAIP1	PMAIP1	
Development of trophoblast cells	EGA2-4		HAND1	HAND1	
Cell death of thymocytes	EGA2-4		PMAIP1	PMAIP1	
Differentiation of ectoderm	EGA2-4		HAND1	HAND1	
Fatty acid metabolism	EGA4-1	APP, NFKB1			APOA1, BMP2, NFKB1
Differentiation of central nervous system cells	EGA4-1	APP			BMP2
Quantity of neurites	EGA4-1	APP			BMP2

Differentiation of brain cells	EGA4-1	APP				BMP2
Proliferation of chondrocytes	EGA4-1	NFKB1				BMP2, GRN, NFKB1
Cell movement of endothelial cells	EGA4-1		SPP1			BMP2, GRN, TIMP3
Limb development	EGA4-1	APP				BMP2, COL1A2, GRN
Tyrosine phosphorylation of protein	EGA4-1	APP	SPP1			
Growth of limb	EGA4-1	APP				BMP2, GRN
Fusion of vesicles	EGA4-1	APP	SPP1			
Binding of fibroblast cell lines	EGA4-1	IL2RG	SPP1			
Quantity of smooth muscle cells	EGA4-1	APP				TIMP3
Quantity of filaments	EGA4-1	APP	SPP1			
Homeostasis of ion	EGA4-1	APP, NFKB1				NFKB1
Cell death of eye cells	EGA4-1	APP				TIMP3
Quantity of muscle	EGA4-1	APP				APOA1, TIMP3
Accumulation of carbohydrate	EGA4-1	APP				APOA1, BMP2
Cell death of retinal cells	EGA4-1	APP				TIMP3
Transport of metal	EGA4-1	APP				BMP2
Colony formation of breast cancer cell lines	EGA4-1		DUSP6, SPP1			DUSP6, GRN
Cellular infiltration by lymphocytes	EGA4-1	APP, NFKB1				APOA1, NFKB1, TIMP3
Steroid metabolism	EGA4-1	APP				APOA1, BMP2
Proliferation of brain cells	EGA4-1	APP				BMP2
Release of cholesterol	EGA4-1	APP				APOA1
Morphology of vessel	EGA4-1	APP	SPP1			
Morphology of blood vessel	EGA4-1	APP	SPP1			
Homeostasis of neurons	EGA4-1	APP, NFKB1				NFKB1
Morphology of cellular protrusions	EGA4-1	APP				BMP2, GRN
Active avoidance response	EGA4-1	APP, NFKB1				NFKB1
Morphology of neurons	EGA4-1	APP, NFKB1				BMP2, GRN, NFKB1
Metabolism of cholesterol	EGA4-1	APP				APOA1
Attachment of connective tissue cells	EGA4-1		SPP1			BMP2
Activation of osteoblasts	EGA4-1		SPP1			BMP2
Quantity of osteoblasts	EGA4-1	NFKB1				NFKB1
Binding of cholesterol	EGA4-1	APP				APOA1
Homeostasis of Ca2+	EGA4-1	APP, NFKB1				NFKB1
Damage of tumor cell lines	EGA4-1	APP	SPP1			
Density of synapse	EGA4-1	APP				GRN
Storage of glycogen	EGA4-1	APP				BMP2
Adhesion of smooth muscle cells	EGA4-1	APP	SPP1			
Cell viability of muscle cells	EGA4-1	APP				BMP2
Anxiety-like behavior	EGA4-1	APP, NFKB1				NFKB1
Calcification of cells	EGA4-1		SPP1			BMP2
Proliferation of neuronal cells	M-1		DUSP10	DLG4, DYRK1A, EGR1, GNAO1, NCAM1, NOS1, PAK1, PSEN1, RBPJ, RELN	BMP4, CAV1, DUSP10, EGR1, EGR3, ESR2, IGF1R, JAG1, RELN, SYNPO	
Development of neurons	M-1		HEY2	CTNNB1, DLG4, DYRK1A, EGR1, GNAO1, NCAM1, NOS1, PAK1, PSEN1, PSEN2, RBPJ, RELN, RYR2	BMP4, CAV1, CTNNB1, DDAH1, EGR1, EGR3, RELN	

Development of body axis	M-1		HEY2, RUNX2	CTNNB1, DLG4, EGR1, GNAO1, NCAM1, PSEN1, RBPJ, RELN, STXBP1	BMP4, CTNNB1, EGR1, IGF1R, JAG1, RELN, RUNX2, ST8SIA4	
Differentiation of mesenchymal cells	M-1		RUNX2	CTNNB1	BMP4, CAV1, CTNNB1, RUNX2	
Differentiation of mesenchymal stem cells	M-1		RUNX2	CTNNB1	BMP4, CAV1, CTNNB1, RUNX2	
Proliferation of leukemia cell lines	M-1		PTPRK, RUNX2	CTNNB1, EGR1	BMP4, CTNNB1, EGR1, IGF1R, IGFBP3, NKX3-1, RUNX2	
Differentiation of hematopoietic progenitor cells	M-1		CD86, RUNX2	CTNNB1, EGR1	BMP4, CTNNB1, EGR1, EGR3, JAG1, RUNX2, TIMP1	
Differentiation of hematopoietic cells	M-1		CD86, RUNX2	CTNNB1, EGR1	BMP4, CTNNB1, EGR1, EGR3, JAG1, RUNX2, TIMP1	
Arrest in proliferation of cells	M-1		RUNX2	CTNNB1, EGR1	BMP4, CAV1, CTNNB1, EGR1, IGF1R, RUNX2	
Volume of bone	M-1		HEY2	NOS1	CAV1	
Mineralization of bone marrow stromal cells	M-1		RUNX2	PSEN1	JAG1, RUNX2	
Metabolism of carbohydrate	EGA4-1	APP, NFKB1	DUSP6, SPP1			APOA1, BMP2, DUSP6, NFKB1
Synthesis of carbohydrate	EGA4-1	NFKB1	DUSP6, SPP1			APOA1, BMP2, DUSP6, NFKB1
Activation of blood cells	EGA4-1	APP, NFKB1	SPP1			APOA1, GRN, NFKB1
Activation of myeloid cells	EGA4-1	APP	SPP1			GRN
Stimulation of cells	EGA4-1	APP	SPP1			APOA1, BMP2
Synthesis of D-glucose	EGA4-1	NFKB1	DUSP6			DUSP6, NFKB1
Release of metal	EGA4-1	APP	SPP1			BMP2
Quantity of bone cells	EGA4-1	NFKB1	SPP1			NFKB1
Cell movement of leukocytes	EGA4-1	APP, NFKB1	SPP1			APOA1, GRN, NFKB1, TIMP3
Cell movement of blood cells	EGA4-1	APP, NFKB1	SPP1			APOA1, BMP2, GRN, NFKB1, TIMP3
Quantity of lymphocytes	EGA4-1	APP, IL2RG, NFKB1	SPP1			APOA1, NFKB1
Quantity of connective tissue cells	EGA4-1	NFKB1	SPP1			NFKB1
Phosphorylation of protein	EGA4-1	APP	SPP1			APOA1
Cellular infiltration by leukocytes	EGA4-1	APP, NFKB1	SPP1			APOA1, NFKB1, TIMP3
Quantity of lymphatic system cells	EGA4-1	APP, IL2RG, NFKB1	SPP1			APOA1, NFKB1
Chemotaxis of myeloid cells	EGA4-1	APP	SPP1			APOA1, GRN
Cell movement of myeloid cells	EGA4-1	APP	SPP1			APOA1, GRN, TIMP3
Cell viability of connective tissue cells	EGA4-1	APP, NFKB1, PDCD4	SPP1			BMP2, NFKB1
Quantity of mononuclear leukocytes	EGA4-1	APP, IL2RG, NFKB1	SPP1			APOA1, NFKB1
Cellular infiltration by blood cells	EGA4-1	APP, NFKB1	SPP1			APOA1, NFKB1, TIMP3
Cellular infiltration	EGA4-1	APP, NFKB1	SPP1			APOA1, NFKB1, TIMP3
Binding of endothelial cells	EGA4-1	APP	SPP1			TIMP3
Cell movement of epithelial cell lines	EGA4-1	APP, NFKB1	SPP1			APOA1, NFKB1

Quantity of antigen presenting cells	EGA4-1	APP, NFKB1	SPP1	NFKB1
Morphology of muscle	EGA4-1	APP, NFKB1	SPP1	GRN, NFKB1
Morphology of bone	EGA4-1	APP	SPP1	BMP2, COL1A2
Survival of osteoclasts	EGA4-1	NFKB1	SPP1	BMP2, NFKB1
Size of bone	EGA4-1	APP	SPP1	BMP2, COL1A2
Healing of epithelial tissue	EGA4-1	NFKB1	SPP1	GRN, NFKB1
Morphology of muscle cells	EGA4-1	APP, NFKB1	SPP1	GRN, NFKB1