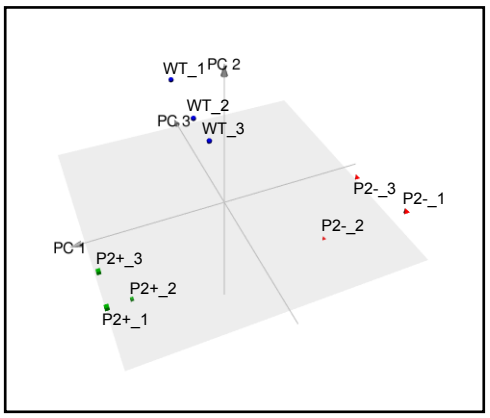
A Principal Component Analysis based on 20072 genes



B

P2-_1	P2-_2	P2-_3	P2+_1	P2+_2	P2+_3		TPO Pathway
						STAT5A	signal transducer and activator of transcription 5A
						HRAS	Harvey rat sarcoma viral oncogene homolog
						SOS1	son of sevenless homolog 1
						JAK2	Janus kinase 2
						PIK3CA	phosphatidylinositol 3-kinase, catalytic, alpha polypeptide
						GRB2	growth factor receptor bound protein 2
						STAT5B	signal transducer and activator of transcription 5B
						CSNK2A1	casein kinase 2, alpha 1 polypeptide
						PIK3R1	phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha)
						STAT1	signal transducer and activator of transcription 1, 91kDa
						FOS	FBJ murine osteosarcoma viral oncogene homolog
						SHC1	SHC (Src homology 2 domain containing) transforming protein 1
						THPO	thrombopoietin
						JUN	jun proto-oncogene
						RAF1	v-raf-1 murine leukemia viral oncogene homolog 1
						MAP2K1	mitogen-activated protein kinase kinase 1
						RASA1	RAS p21 protein activator (GTPase activating protein) 1
						PLGC1	phospholipase C, gamma 1
						MAPK3	mitogen-activated protein kinase 3
						STAT3	signal transducer and activator of transcription 3 (acute-phase response factor)
						PIK3CG	phosphoinositide-3-kinase, catalytic, gamma polypeptide
						PRKCA	protein kinase C, alpha
						MPL	myeloproliferative leukemia virus oncogene

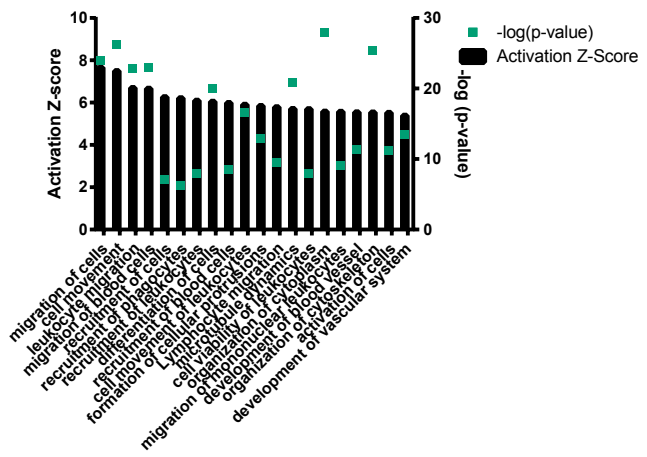
C

P2-_1	P2-_2	P2-_3	P2+_1	P2+_2	P2+_3		Integrin Pathway
						PTK2	protein tyrosine kinase 2
						CAPN1	calpain 1, (mu/I) large subunit
						HRAS	Harvey rat sarcoma viral oncogene homolog
						SOS1	son of sevenless homolog 1
						CAPNS2	calpain, small subunit 2
						PPP1R12B	protein phosphatase 1, regulatory (inhibitor) subunit 12B
						ACTN3	actinin alpha 3
						GRB2	growth factor receptor bound protein 2
						ACTN2	actinin alpha 2
						RAPGEF1	Rap guanine nucleotide exchange factor (GEF) 1
						ACTA1	actin, alpha 1, skeletal muscle
						RAP1A	RAP1A, member of RAS oncogene family
						BCAR1	breast cancer anti-estrogen resistance 1
						MAP2K2	mitogen-activated protein kinase kinase 2
						SHC1	SHC (Src homology 2 domain containing) transforming protein 1
						PXN	paxillin
						JUN	jun proto-oncogene
						CSK	c-src tyrosine kinase
						ITGA1	integrin, alpha 1
						ROCK1	Rho-associated, coiled-coil containing protein kinase 1
						CAV1	caveolin 1, caveolae protein, 22kDa
						RHOA	ras homolog family member A
						MAPK8	mitogen-activated protein kinase 8
						RAF1	v-raf-1 murine leukemia viral oncogene homolog 1
						CAPNS1	calpain, small subunit 1
						CRKL	v-crk sarcoma virus CT10 oncogene homolog (avian)-like
						MAPK1	mitogen-activated protein kinase 1
						MAP2K1	mitogen-activated protein kinase kinase 1
						TNS1	tensin 1
						ITGB1	integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)
						TLN1	talin 1
						MAPK3	mitogen-activated protein kinase 3
						VCL	vinculin
						BCR	breakpoint cluster region
						FYN	FYN oncogene related to SRC, FGR, YES
						ZYX	zyxin
						ACTN1	actinin, alpha 1
						SRC	v-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)

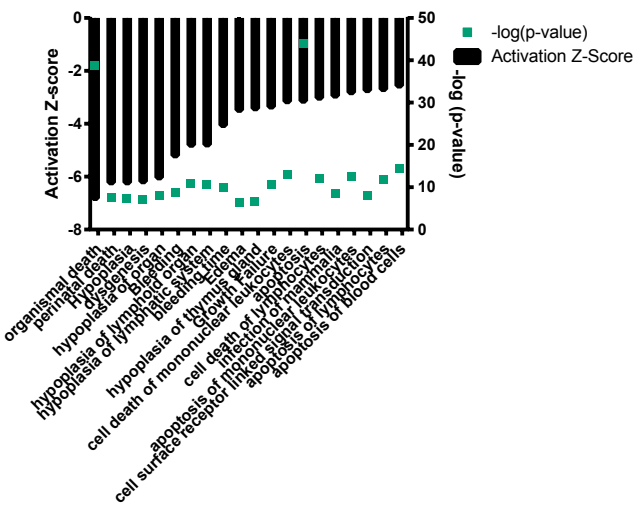
D

P2-_1	P2-_2	P2-_3	P2+_1	P2+_2	P2+_3		Cell Cycle Pathway
						CCNE1	cyclin E1
						CDC25A	cell division cycle 25A
						CCND2	cyclin D2
						CDK4	cyclin-dependent kinase 4
						CDK7	cyclin-dependent kinase 7 (MO15 homolog, Xenopus laevis, cdk-activating kinase)
						RB1	retinoblastoma 1 (including osteosarcoma)
						CDKN2A	cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)
						CCNH	cyclin H
						CDKN2B	cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)
						CCNA1	cyclin A1
						CDKN1A	cyclin-dependent kinase inhibitor 1A (p21, Cip1)
						TFDP1	transcription factor Dp-1
						CDKN1B	cyclin-dependent kinase inhibitor 1B (p27, Kip1)
						CDK6	cyclin-dependent kinase 6
						CDK2	cyclin-dependent kinase 2
						E2F1	E2F transcription factor 1
						RBL1	retinoblastoma-like 1 (p107)
						CCNB1	cyclin B1
						CDKN2D	cyclin-dependent kinase inhibitor 2D (p19, inhibits CDK4)
						CDKN2C	cyclin-dependent kinase inhibitor 2C (p18, inhibits CDK4)
						CCND3	cyclin D3
						CCND1	cyclin D1

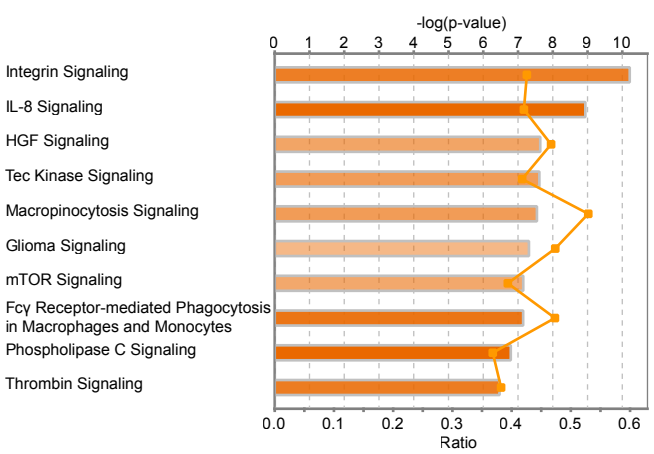
E P2+ Upregulated Diseases or Functions



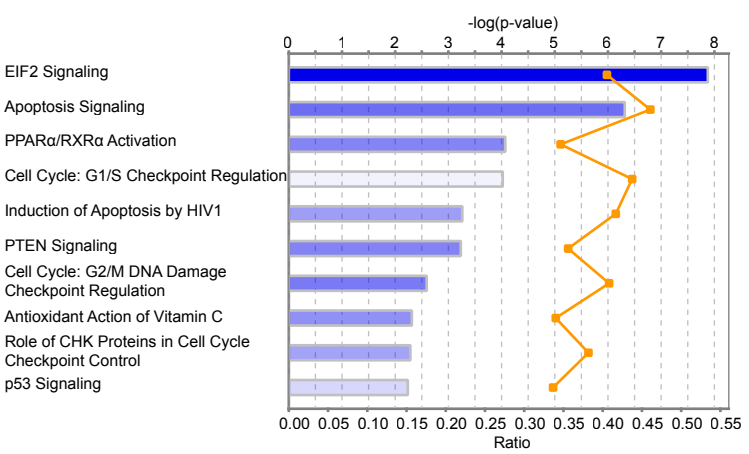
F P2+ Downregulated Diseases or Functions



G Top 10 P2+ Activated Canonical Pathways



H Top 10 P2+ Inhibited Canonical Pathways



positive z-score | z-score = 0 | negative z-score | no activity pattern available | Ratio

S7 Fig.