

Symbol	Entrez Gene Name	GI Number	Fold Change	Networks	Location	Type(s)	Biomarker Application(s)	Drug(s)
ACTA1	actin, alpha 1, skeletal muscle	4501881	2.090	1	Cytoplasm	other		
ACTB	actin, beta	14250401	4.440	1	Cytoplasm	other		
Actin	--	--	--	1	Cytoplasm	group	Response to Therapy	
AGT	angiotensinogen (serpin peptidase inhibitor, clade A, member 8)	--	--	3	Extracellular Space	other	Efficacy Diagnosis, Disease Progression, Efficacy, Prognosis, Response to Therapy, Safety	
Akt	--	--	--	2	Cytoplasm	group	Diagnosis, Disease Progression	disulfiram, chlorpropamide
ALDH1A1	aldehyde dehydrogenase 1 family, member A1	2183299	-2.140	3	Cytoplasm	enzyme		
Alpha actin	--	--	--	4	Cytoplasm	group		
Alpha Actinin	--	--	--	1	Cytoplasm	group		
ANXA1	annexin A1	4502101	1.750	1	Plasma Membrane	other	Diagnosis, Prognosis, Unspecified Application	
ANXA2	annexin A2	16306978	1.950	1	Plasma Membrane	other	Diagnosis, Unspecified Application	
Ap1	--	--	--	2	Nucleus	complex		
BAG4	BCL2-associated athanogene 4	--	--	3	Cytoplasm	other		
BRCA1-	--	--	--	--	--	--		
BARD1	--	--	--	2	Nucleus	complex		
BTC	betacellulin	--	--	2	Extracellular Space	growth factor		
C14orf166	chromosome 14 open reading frame 166	55613379	-4.110	2	Nucleus	other		
C22orf28	chromosome 22 open reading frame 28	--	--	3	unknown	other chemical - endogenous mammalian		
Ca2+	--	--	--	3	unknown	other		
CALD1	caldesmon 1	15149465	4.190	1, 2	Cytoplasm	other		
Calmodulin	--	--	--	2	Cytoplasm	group		
Calpain	--	--	--	1	Cytoplasm	complex		
Caspase	--	--	--	1	Cytoplasm	group	Efficacy	
CFL1	cofilin 1 (non-muscle)	--	--	4	Nucleus	other	Diagnosis, Efficacy, Prognosis	
CHI3L1	chitinase 3-like 1 (cartilage glycoprotein-39)	--	--	3	Extracellular Space	enzyme		
Ck2	--	--	--	2	Cytoplasm	complex		
CLTCL1	clathrin, heavy chain-like 1	--	--	3	Plasma Membrane	other	Disease Progression	
CNN3	calponin 3, acidic	4502923	1.750	3	Cytoplasm	other		
Cofilin	--	--	--	4	Cytoplasm	group		
COL1A1	collagen, type I, alpha 1	1418928	-2.860	2	Extracellular Space	other	Diagnosis	collagenase clostridium histolyticum
CRYAA	crystallin, alpha A	4503055	-3.380	1	Nucleus	other		

Symbol	Entrez Gene Name	GI Number	Fold Change	Networks	Location	Type(s)	Biomarker Application(s)	Drug(s)
CRYAB	crystallin, alpha B	4503057	-7.490	1	Nucleus	other	Diagnosis, Disease Progression, Prognosis, Unspecified Application	
CRYBA1	crystallin, beta A1	12056461	-1.730	1	unknown	other		
CRYBB1	crystallin, beta B1	4503061	-3.380	1	unknown	other		
CRYBB2	crystallin, beta B2	4503063	-3.380	1	unknown	other		
CRYGC	crystallin, gamma C	10518338	-1.370	1	Cytoplasm	other		
CS	citrate synthase	--		3	Cytoplasm	enzyme		
DCTN1	dynactin 1	--		4	Cytoplasm	other		
DDX24	DEAD (Asp-Glu-Ala-Asp) box polypeptide 24	--		4	Nucleus	enzyme		
DDX3X	DEAD (Asp-Glu-Ala-Asp) box polypeptide 3, X-linked	62087546	-3.350	2	Nucleus	enzyme	Diagnosis	
DDX3Y	DEAD (Asp-Glu-Ala-Asp) box polypeptide 3, Y-linked	13514809	-1.700	4	Cytoplasm	enzyme		
EIF4A1	eukaryotic translation initiation factor 4A1	4503529	4.440	2, 4	Cytoplasm	translation regulator		
EIF4A2	eukaryotic translation initiation factor 4A2	16198386	-1.850	2	Cytoplasm	translation regulator		
ENO1	enolase 1, (alpha)	--		4	Cytoplasm	regulator	Diagnosis	
ERK1/2	--	--		2	Cytoplasm	group		
ERP29	endoplasmic reticulum protein 29	5803013	-4.110	4	Cytoplasm	transporter		
EZR	ezrin	46249758	4.190	1	Plasma Membrane	other	Prognosis	
F Actin	--	--		1	Cytoplasm	complex		
F2	coagulation factor II (thrombin)	--		4	Extracellular Space	peptidase	Diagnosis	enoxaparin, desirudin, dabigatran etexilate, antithrombin alfa, argatroban, bivalirudin, lepirudin
FSH	--	--		2	Plasma Membrane	complex		
GANAB	glucosidase, alpha; neutral AB	--		3	Cytoplasm	enzyme		
GAPDH	glyceraldehyde-3-phosphate dehydrogenase	31645	-7.490	1	Cytoplasm	enzyme	Diagnosis, Disease Progression, Unspecified Application	
GCN1L1	GCN1 general control of amino-acid synthesis 1-like 1 (yeast)	--		4	Cytoplasm	translation regulator		
GNRH2	gonadotropin-releasing hormone 2	--		2	Extracellular Space	other		
GSS	glutathione synthetase	--		3	Cytoplasm	enzyme		
HIST1H2BD	histone cluster 1, H2bd	10800138	-1.980	3	Nucleus	other		
Histone h3	--	--		2	Nucleus	group	Prognosis	
HNF4A	hepatocyte nuclear factor 4, alpha	--		3	Nucleus	regulator	Unspecified Application	
HNRNP	heterogeneous nuclear ribonucleoprotein F	16876910	4.440	3	Nucleus	other		
HSP	--	--		1	Cytoplasm	group		

Symbol	Entrez Gene Name	GI Number	Fold Change	Networks	Location	Type(s)	Biomarker Application(s)	Drug(s)
Hsp27	--	--		1	Cytoplasm	group	Prognosis, Unspecified Application	
Hsp90	--	--		1	Cytoplasm	group		
HSP90AA1	heat shock protein 90kDa alpha (cytosolic), class A member 1	154146191	-4.000	1	Cytoplasm	other	Safety, Unspecified Application	17-dimethylaminoethylamino-17-demethoxygeldanamycin, IPI-504, cisplatin
HSP90AB1	heat shock protein 90kDa alpha (cytosolic), class B member 1	20149594	-4.000	1	Cytoplasm	other		17-dimethylaminoethylamino-17-demethoxygeldanamycin, IPI-504, cisplatin
HSP90B1	heat shock protein 90kDa beta (Grp94), member 1	15010550	-2.880	1	Cytoplasm	other		17-dimethylaminoethylamino-17-demethoxygeldanamycin, IPI-504, cisplatin
HSPB1	heat shock 27kDa protein 1	4504517	4.890	1	Cytoplasm	other	Diagnosis	
Hspg	--	--		3	Plasma Membrane	group		
IMMT	inner membrane protein, mitochondrial	154354964	4.190	2	Cytoplasm	other		
Insulin	--	--		2	Extracellular Space	group		
KCNN2	potassium intermediate/small conductance calcium-activated channel, subfamily N, member 2	--		3	Plasma Membrane	ion channel		
KIF22	kinesin family member 22	--		3	Nucleus	other	Diagnosis, Prognosis	
KITLG	KIT ligand	--		3	Extracellular Space	growth factor	Diagnosis, Efficacy, Unspecified Application	
LDHA	lactate dehydrogenase A	--		4	Cytoplasm	enzyme	Diagnosis, Disease Progression, Efficacy, Prognosis, Unspecified Application	
Lh	--	--		2	Plasma Membrane	complex		
LMNA	lamin A/C	27436946	-3.350	1, 4	Nucleus	other		
L-triiodothyronine	--	--		4	unknown	chemical - endogenous mammalian	Diagnosis, Efficacy, Safety	
LXN	latexin	--		4	Cytoplasm	other		
Mapk	--	--		2	Cytoplasm	group	Diagnosis, Disease Progression, Efficacy, Prognosis, Response to Therapy	
MAPKAPK5	mitogen-activated protein kinase-activated protein kinase 5	--		4	Cytoplasm	kinase		
MARCKS	myristoylated alanine-rich protein kinase C substrate	153070260	-5.000	1	Plasma Membrane	other		
MAT2B	methionine adenosyltransferase II, beta	11034825	1.950	3	Cytoplasm	enzyme		

Symbol	Entrez Gene Name	GI Number	Fold Change	Networks	Location	Type(s)	Biomarker Application(s)	Drug(s)
METAP2	methionyl aminopeptidase 2	--		3	Cytoplasm	peptidase		PPI-2458
MTHFD1	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1, methenyltetrahydrofolate cyclohydrolase, formyltetrahydrofolate synthetase	--		3	Cytoplasm	enzyme	Diagnosis, Efficacy, Prognosis, Response to Therapy, Unspecified Application	
MYC	v-myc myelocytomatosis viral oncogene homolog (avian)	--		4	Nucleus	transcription regulator	Application	
MYH10	myosin, heavy chain 10, non-muscle	--		3	Cytoplasm	other	Unspecified Application	
MYH7	myosin, heavy chain 7, cardiac muscle, beta	--		4	Cytoplasm	enzyme	Unspecified Application	
MYH9	myosin, heavy chain 9, non-muscle	--		4	Cytoplasm	enzyme		
MYL12B	myosin, light chain 12B, regulatory	15809016	-6.590	3	Cytoplasm	other		
NBCP2	nuclear cap binding protein subunit 2, 20kDa	--		3	Nucleus	other		
Nfat (family)	--	--		2	Cytoplasm	group transcription		
NFATC1	nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 1	--		4	Nucleus	regulator		
NFkB (complex)	--	--		1	Nucleus	complex	Diagnosis, Disease Progression, Efficacy, Prognosis	
NME1	non-metastatic cells 1, protein (NM23A) expressed in	--		4	Nucleus	kinase		
NPM1	nucleophosmin (nucleolar phosphoprotein B23, numatrin)	10835063	2.710	2	Nucleus	transcription regulator	Disease Progression, Unspecified Application	
NUAK2	NUAK family, SNF1-like kinase, 2	--		3	unknown	kinase		
NUDC	nuclear distribution gene C homolog (A. nidulans)	5729953	4.440	4	Cytoplasm	other		
PAK2	p21 protein (Cdc42/Rac)-activated kinase 2	--		4	Cytoplasm	kinase	Disease Progression	
PCYT1A	phosphate cytidyltransferase 1, choline, alpha	--		3	Cytoplasm	enzyme		
PFKP	phosphofructokinase, platelet	--		4	Cytoplasm	kinase		
PGAM2	phosphoglycerate mutase 2 (muscle)	387016	-4.110	1	Cytoplasm	phosphatase	Unspecified Application	
PGK1	phosphoglycerate kinase 1	--		4	Cytoplasm	kinase		
PGLS	6-phosphogluconolactonase	6912586	3.880	3	Cytoplasm	enzyme		
Pkc(s)	--	--		2	Cytoplasm	group transmembrane	Efficacy	
PLA2R1	phospholipase A2 receptor 1, 180kDa	--		2	Plasma Membrane	receptor	Diagnosis	
PRDX2	peroxiredoxin 2	--		4	Cytoplasm	enzyme		
PRDX6	peroxiredoxin 6	4758638	-4.110	2	Cytoplasm	enzyme	Unspecified Application	
PRKCSH	protein kinase C substrate 80K-H	182855	-4.000	3	Cytoplasm	enzyme		
Profilin	--	--		1	Cytoplasm	group		
PSIP1	PC4 and SFRS1 interacting protein 1	--		2	Nucleus	other	Disease Progression	
PSMB9	proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional peptidase 2)	36059	2.070	2	Cytoplasm	peptidase transcription		
PTTG1	pituitary tumor-transforming 1	--		2	Nucleus	regulator	Prognosis	
RAN	RAN, member RAS oncogene family	4092054	2.080	3	Nucleus	enzyme		
RNA polymerase II	--	--		2	Nucleus	complex		

Symbol	Entrez Gene Name	GI Number	Fold Change	Networks	Location	Type(s)	Biomarker Application(s)	Drug(s)
Rock	--	--		1, 4	Cytoplasm	group	Efficacy	
ROCK1	Rho-associated, coiled-coil containing protein kinase 1	--		4	Cytoplasm	kinase		
ROCK2	Rho-associated, coiled-coil containing protein kinase 2	--		4	Cytoplasm	kinase		
RPSA	ribosomal protein SA	250127	4.120	1	Cytoplasm	translation regulator		
S100A4	S100 calcium binding protein A4	4506765	9.970	1	Cytoplasm	other	Disease Progression	
SLC4A1	solute carrier family 4, anion exchanger, member 1 (erythrocyte membrane protein band 3, Diego blood group)	--		3	Plasma Membrane	transporter		amiloride, amiloride/hydrochlorothiazide
SLC9A1	solute carrier family 9 (sodium/hydrogen exchanger), member 1	--		4	Plasma Membrane	ion channel transcription regulator		
SP1	Sp1 transcription factor	--		3	Nucleus	regulator		
TALDO1	transaldolase 1	48257056	1.750	3	Cytoplasm	enzyme		
TBKBP1	TBK1 binding protein 1	--		2	unknown	other		
TF	transferrin	--		4	Extracellular Space	transporter	Efficacy, Prognosis	
TG	thyroglobulin	--		4	Extracellular Space	other	Diagnosis, Unspecified Application	
TIMP1	TIMP metalloproteinase inhibitor 1	--		4	Extracellular Space	other	Diagnosis, Disease Progression, Efficacy, Prognosis, Unspecified Application	
TIMP2	TIMP metalloproteinase inhibitor 2	--		4	Extracellular Space	other	Efficacy, Prognosis, Unspecified Application	
TNF	tumor necrosis factor	--		3	Extracellular Space	cytokine	Diagnosis, Disease Progression, Efficacy, Prognosis, Safety, Unspecified Application	adalimumab, etanercept, infliximab, CDP870, golimumab, thalidomide
TPI1	triosephosphate isomerase 1	17389815	2.270	4	Cytoplasm	enzyme	Diagnosis, Unspecified Application	
TPO	thyroid peroxidase	--		2	Plasma Membrane	enzyme		propylthiouracil, methimazole
TRAF6	TNF receptor-associated factor 6	--		3	Cytoplasm	enzyme		
UBB	ubiquitin B	11024714	2.080	2	unknown	other		
UCN2	urocortin 2	--		2	Extracellular Space	other		
UPP1	uridine phosphorylase 1	--		2	Cytoplasm	enzyme	Prognosis	
Vegf	--	--		2	Cytoplasm	group	Diagnosis, Disease Progression, Efficacy, Prognosis, Response to Therapy, Safety, Unspecified Application	
VIM	vimentin	62414289	4.440	1	Cytoplasm	other	Diagnosis, Efficacy, Prognosis	
XRCC4	X-ray repair complementing defective repair in Chinese hamster cells 4	--		3	Nucleus	other		

Symbol	Entrez Gene Name	GI Number	Fold Change	Networks	Location	Type(s)	Biomarker Application(s)	Drug(s)
ZYX	zyxin	33870614	4.190	1	Plasma Membrane	other		

Legend to Supplementary Table S1. Comprehensive information on proteins analyzed by Ingenuity Pathways software. Protein symbols, gene names, Gi numbers, fold change by UVB, and network location are provided for proteins that were changed by UVB irradiation (shaded rows). The cellular distribution and biomarker application of the proteins, if known, is also shown.