

ESM Table 2

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Symbol	Synonym(s)	Entrez Gene Name	Gene symbol -- human (Hugo / HGNC, Entrez Gene)	Location	Family	Drugs	Entrez Gene ID for	Entrez Gene ID for	Entrez Gene ID for
4E-BP1	4E-BP1, 4EBP, AA959816, BP-1, Eukaryotic translation initiation factor 4e binding protein 1, PHAS-I	eukaryotic translation initiation factor 4E binding protein 1		Cytoplasm	translation regulator		1978	13685	116636
ACLY	A730098H14RIK, ACL, ATP CITRATE LYASE, ATPCL, AW538652, CITRATE LYASE, CLATP, RP23-392I3.9	ATP citrate lyase		Cytoplasm	enzyme		47	104112	24159
AFX	AFX, AFX1, Afxh, forkhead box O4, MLLT7, RGD1561201, RP23-356J7.2	forkhead box O4		Nucleus	transcription regulator		4303	54601	302415
AKT	AKT1/2/3, B/Akt, Pkb, RAC-PK			Cytoplasm	group	afuresertib			
AMP	149022-20-8, 5'-adenylic acid, 5'-AMP, 61-19-8, adenosine monophosphate, C10H14N5O7P, [(2R,3S,4R,5R)-5-(6-aminopurin-9-yl)-3,4-dihydroxyoxolan-2-yl]methyl dihydrogen phosphate			Other	chemical - endogenous mammalian				
Apoptosis				Other	function				
ATP	56-65-5, 9-beta-D-arabinofuranosyladenine 5'-triphosphate, 9-β-D-arabinofuranosyladenine 5'-triphosphate, adenosine 5'-(tetrahydrogen triphosphate), adenosine 5'-triphosphate, adenosine triphosphate, ATP, ATP4-, C10H16N5O13P3, [(2R,3S,4R,5R)-5-(6-aminopurin-9-yl)-3,4-dihydroxyoxolan-2-yl]methoxyhydroxyphosphoryl] phosphono hydrogen phosphate			Other	chemical - endogenous mammalian				
BAD	A1325008, BBC2, BCL2-associated agonist of cell death, BCL2L8	BCL2-associated agonist of cell death		Cytoplasm	other		572	12015	64639
c-RAF	6430402F14Rik, AA990557, BB129353, CMD1NN, Craf1, CRAF, D830050J10Rik, MURINE leukaemia VIRAL ONCOGENE HOMOLOG1, MURINE LEUKEMIA VIRAL ONCOGENE HOMOLOG1, NS5, Raf, Raf-1 proto-oncogene, serine/threonine kinase, v-Raf, v-raf-leukaemia viral oncogene 1, v-raf-leukemia viral oncogene 1	Raf-1 proto-oncogene, serine/threonine kinase	RAF1	Cytoplasm	kinase	CHIR-265, vemurafenib, dabrafenib, regorafenib, bortezomib/sorafenib, dexamethasone/enalidomide/sorafenib, bevacizumab/sorafenib, dabrafenib/trametinib, sorafenib	5894	110157	24703
C3G	4932418O06Rik, C3G, C3G-1, C3G-2, GRF2, Rap guanine nucleotide exchange factor (GEF) 1, RP11-40A7.1, RP23-304D11.1	Rap guanine nucleotide exchange factor (GEF) 1		Cytoplasm	other		2889	107746	63881
cAMP	(4aR,6R,7R,7aS)-6-(6-aminopurin-9-yl)-2-hydroxy-2-oxo-4a,6,7,7a-tetrahydro-4H-furo[3,2-d][1,3,2]dioxaphosphinin-7-ol, 11002-78-1, 3',5'-cyclic AMP, 3',5'-monophosphate, adenosine cyclic, 33116-15-3, 37839-81-9, 54532-48-8, 55576-98-2, 60-92-4, 66067-13-8, 68407-13-6, adenosine 3',5'-phosphate, adenosine cyclic 3',5'-monophosphate, adenosine cyclic 3,5 monophosphate, adenosine cyclic monophosphate, adenosine, cyclic 3',5'-(hydrogen phosphate), C10H12N5O6P, cAMP, cyclic adenosine monophosphate, cyclic adenylic acid, cyclic AMP, disodium salt, cyclic AMP, monoammonium salt, cyclic AMP, monopotassium salt, cyclic AMP, monosodium salt, cyclic AMP, sodium salt, cyclic-3',5'-monophosphate, adenosine			Other	chemical - endogenous mammalian				
CBL	4732447J05Rik, C-CBL, Casitas B-lineage lymphoma, Cbl proto-oncogene, E3 ubiquitin protein ligase, Cbl ubiquitin ligase, CBL2, CBLA, FRA11B, LOC283153, NSLL, p120 Cbl, RGD1561386, RNF55	Cbl proto-oncogene, E3 ubiquitin protein ligase		Nucleus	transcription regulator		867	12402	500985
Cell growth				Other	function				
CIP4	A1646975, CIP4, Cip4/2, HSTP, STOT, STP, thyroid hormone receptor interactor 10	thyroid hormone receptor interactor 10	TRIP10	Cytoplasm	other		9322	106628	116717
CRK	CRK, Crkl/II and CrkL			Cytoplasm	group				
eIF2B	eIF2beta, eIF2β			Cytoplasm	complex				
eIF4E	AUTS19, BOS 6469, CAP-binding, CBP, EG668879, EIF4E1, Eif4eps, EIF4EL1, EIF4F, eukaryotic translation initiation factor 4E, If4e	eukaryotic translation initiation factor 4E	EIF4E	Cytoplasm	translation regulator		1977	13684	117045
ENAC				Plasma Membrane	complex				
ERstress				Other	function				
ERK1/2	p42/44 mapk, P42/p44 erk, p42/p44 MAP KINASE, P42/p44 mapk, p44/p42 MAPK			Cytoplasm	group				
Fatty acidsynthesis				Other	function				
FKHR	FOXO1/3A			Cytoplasm	group				

FKHRL1	1110048B16RIK, 2010203A17RIK, AF6q21, C76856, Fkhr2, FKHRL1, FKHRL1P2, forkhead box O3, FOXO2, FOXO3A	forkhead box O3		Nucleus	transcription regulator		2309	56484	294515
FYN	A1448320, AW552119, C-FYN, Fyn proto-oncogene, FYN proto-oncogene, Src family tyrosine kinase, FYNT, p59 Fyn B, p59-FYN, RP1-66H14.1, SLK, SRC-LIKE KINASE, SYN	FYN proto-oncogene, Src family tyrosine kinase		Plasma Membrane	kinase	dasatinib	2534	14360	25150
GAB1	AA408973, AW107238, GAB, GRB2-ASSOCIATED BINDER-1, GRB2-associated binding protein 1, growth factor receptor bound protein 2-associated protein 1	GRB2-associated binding protein 1		Cytoplasm	other		2549	14388	361388
Glucose	(3R,4S,5S,6R)-6-(hydroxymethyl)oxane-2,3,4,5-tetrol, 50-99-7, biliary glucose, C6H12O6, D-glucose, dextrose, glucose, sugar			Other	chemical - endogenous				
GLUT4	Gef, GLUT4, solute carrier family 2 (facilitated glucose transporter), member 4	solute carrier family 2 (facilitated glucose transporter), member 4		Plasma Membrane	transporter		6517	20528	25139
GRB10	5730571D09Rik, A1325020, GRB-IR, growth factor receptor-bound protein 10, IRBP, MEG1, mKIAA0207, RGD1566234, RP23-119N24.1, RSS	growth factor receptor-bound protein 10	GRB10	Cytoplasm	other		2887	14783	498416
GRB2	AA408164, ASH, BOS 19430, EGFRBP-GRB2, GRAB2, growth factor receptor-bound protein 2, MST084, MSTP084, NCKAP2, RP23-28I4.1	growth factor receptor-bound protein 2		Cytoplasm	other		2885	14784	81504
GSK3	Glycogen synthase kinase, Gsk, Gsk3 alpha/beta, GSK3 α/β			Cytoplasm	group				
GYS	2.4.1.11, glycogen (starch) synthetase, glycogen(starch) synthase, Gys, UDP-glucose-glycogen glucosyltransferase, UDP-glycogen synthase, UDPG-glycogen synthetase, UDPG-glycogen transglucosylase, UDPglucose:glycogen 4-alpha-D-glucosyltransferase, UDPglucose:glycogen 4-α-D-glucosyltransferase, uridine diphosphoglucose-glycogen glucosyltransferase			Cytoplasm	group				
INSR	4932439J01Rik, alpha subunit INSULIN receptor, CD220, D630014A15RIK, HHF5, insulin receptor, INSULIN receptor B, Insulin receptor beta, INSULIN receptor KINASE, Insulin receptor β, INSULIN RPTK, IR, IR alpha, IR α, IR-B, IRK, α subunit INSULIN receptor	insulin receptor	INSR	Plasma Membrane	kinase	insulin detemir, INS, canakinumab/INS, insulin aspart/insulin detemir, ceritinib, insulin glargine/insulin lispro, insulin aspart, insulin glulisine, insulin lispro, insulin glargine, protamine zinc insulin	3643	16337	24954
INSULIN	Ins			Extracellular Space	group				
IRS	INSULIN receptor SUBSTRATE			Cytoplasm	group				
IRS1	ENSMUSG0000022591, G972R, HIRS-1, insulin receptor substrate 1, IRS1IRM	insulin receptor substrate 1	IRS1	Cytoplasm	enzyme		3667	16367	25467
JAK1/2				Cytoplasm	group				
JNK1	A1849689, C-JUN N-TERMINAL KINASE1, JNK, JNK-46, JNK1, JNK1A2, JNK21B1/2, mitogen-activated protein kinase 8, p46JNK1, p46JNK1 alpha, p46JNK1 α, PRKM8, Sapk gamma, SAPK P46, Sapk γ, SAPK1, SAPK1c, STRESS-ACTIVATED protein KINASE-LIKE KINASE	mitogen-activated protein kinase		Cytoplasm	kinase	aplidine	5599	26419	116554
LAR	AA591035, LAR, Lar ptp2b, LARS, Leukocyte Antigen Related Protein Phosphatase, protein tyrosine phosphatase, receptor type, F, RP23-94L18.2, RP5-1029K14.1, RPTP-LAR	protein tyrosine phosphatase, receptor type, F		Plasma Membrane	phosphatase		5792	19268	360406
LIPE	4933403G17RIK, Cholesteryl Ester Hydrolase, Hormone-sensitive Lipase, HSL, LHS, lipase, hormone-sensitive, LOC100503639, LOC100862213, mCG 147818, Neutral ce hydrolase	lipase, hormone-sensitive	LIPE	Cytoplasm	enzyme		3991	16890	25330
Lipolysis				Other	function				
MEK1/2	MEK1/2, MKK1/2			Cytoplasm	group				
mTOR	2610315D21Rik, A1327068, Flat, FRAP, FRAP1, FRAP2, FRB, mechanistic target of rapamycin (serine/threonine kinase), RAFT1, RAP1T, RP23-423L9.1, RRAFT1	mechanistic target of rapamycin (serine/threonine kinase)		Nucleus	kinase	ridaforolimus, OSI-027, methotrexate/sirolimus/tacrolimus, dactolisib, everolimus/exemestane, lenalidomide/temsirolimus, imatinib/sirolimus, cyclophosphamide/sirolimus, cyclosporine A/sirolimus/tacrolimus, sirolimus, temsirolimus, tacrolimus, everolimus, pimecrolimus	2475	56717	56718

NCK	6330586M15Rik, D230010O13RIK, NCK, NCK adaptor protein 1, Nck α , NCK α , non-catalytic region of tyrosine kinase adaptor protein 1, p47Nck	NCK adaptor protein 1	Cytoplasm	kinase		4690	17973	300955
p70 S6K PDE3B	p70, p70 S6 Kinase, S6K 3',5'-Cyclic phosphodiesterase B, 9830102A01RIK, AI847709, cAMP-Dependent 3',5'-Cyclic Phosphodiesterase, cGIPDE1, Cgmp-inhibited 3',5'-cyclic phosphodiesterase b, HcGIP1, PDE3, Phosphodiesterase 3b, phosphodiesterase 3B, cGMP-inhibited	phosphodiesterase 3B, cGMP-inhibited	Cytoplasm Cytoplasm	group enzyme	dyphylline, nitroglycerin, medorinone, aminophylline, cilostazol, dipyrindamole, amrinone, tolbutamide, theophylline, pentoxifylline	5140	18576	29516
PDK1	3'-PDK, 3-phosphoinositide dependent protein kinase-1, PDK1, PDPK2, PRO0461, RP23-153H18.1	3-phosphoinositide dependent protein kinase 1	Cytoplasm	kinase		5170	18607	81745
PI3K	1-phosphatidylinositol 3-kinase, 2.7.1.137, ATP:1-phosphatidyl-1D-myo-inositol 3-phosphotransferase, Phosphatidylinositol 3 kinase, phosphatidylinositol 3'-kinase, PI3-kinase, PtdIns 3 Kinase, type I phosphatidylinositol kinase, type III phosphoinositide 3-kinase, Vps34p		Cytoplasm	complex				
PIP2	1,2-diacyl-sn-glycero-3-phospho-(1'-myo-inositol-4',5'-bisphosphate), 1-O-(3-sn-phosphatidyl)-1D-myo-inositol 4,5-bis(dihydrogen phosphate), 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate, C11H19O19P3R2		Other	chemical - endogenous mammalian				
PIP3	1-phosphatidyl-1D-myo-inositol 3,4,5-trisphosphate, phosphatidylinositol-3,4,5-trisphosphate, phosphoinositide (3,4,5) P3, PI(3,4,5)P3, PIns(3,4,5)P3, PIP3, PtdIns(3,4,5)P3		Other	chemical - endogenous mammalian				
PKA PKC(λ , ζ)	A-Kinase, cAMP-dependent protein kinase, protein KINASE A Apk, Atypical Protein Kinases C, PKC (λ , ζ), PKC ZETA/LAMBDA, PKC ζ / λ		Cytoplasm Cytoplasm	complex group				
PP1	any Pp1 (protein phosphatase 1 complex), Atp-Mg2+-Dependent Protein Phosphatase, PP1, Pp1 (protein phosphatase 1 complex), PPA1, Protein Phosphatase 1		Cytoplasm	complex				
Proteinsynthesis PTEN	10q23del, 2310035O07RIK, A130070J02Rik, AI463227, B430203M17RIK, BZS, CWS1, DEC, GLM2, MHAM, Mmac, MMAC1, MUTATED IN MULTIPLE ADVANCED CANCERS, mutated in multiple advanced cancers 1, phosphatase and tensin homolog, PTEN1, TEP1	phosphatase and tensin homolog	Other Cytoplasm	function phosphatase		5728	19211	50557
PTP1B	protein tyrosine phosphatase, non-receptor type 1, protein-TYROSINE PHOSPHATASE, Ptp, PTP-1B, PTP-HA2, PTP1B α , PTP1B α , PTP1BB, Ptpase 1, PTPASE 1B, RP23-58A8.1	protein tyrosine phosphatase, non-receptor type 1	Cytoplasm	phosphatase		5770	19246	24697
RAPTOR	4932417H02Rik, KOG1, Mip1, mKIAA1303, Rap, RAPTOR, regulatory associated protein of MTOR, complex 1, RGD1311784, RP24-225K18.1	regulatory associated protein of MTOR, complex 1	Cytoplasm	other		57521	74370	287871
RAS SGK	RP1-188K17.1, serum/glucocorticoid regulated kinase 1, Serum/Glucocorticoid Regulated Serine/Threonine Protein Kinase, SGK	serum/glucocorticoid regulated kinase 1	Cytoplasm Cytoplasm	group kinase	SGK1	6446	20393	29517
SHC	p52SHC, p66, p66SHC, RP11-307C12.1, SHC, Shc (46 kDa isoform), SHC (Src homology 2 domain containing) transforming protein 1, SHC P66 isoform, SHCA, src homology 2 domain-containing transforming protein C1	SHC (Src homology 2 domain containing) transforming protein 1	Cytoplasm	kinase		6464	20416	85385
SHIP	3.1.3.86, p150Ship, phosphatidylinositol-3,4,5-trisphosphate 5-phosphatase		Cytoplasm	group				
SHP2	2700084A17Rik, AW536184, BPTP3, CFC, MGC14433, Noonan syndrome 1, NS1, protein tyrosine phosphatase, non-receptor type 11, PTP-1D, PTP2C, SAP-2, SH-PTP2, SH-PTP3, SHP-2, Src homology protein 2, SYP	protein tyrosine phosphatase, non-receptor type 11	Cytoplasm	phosphatase		5781	19247	25622
SOCS3	ATOD4, CIS3, CISH3, EF-10, RP23-268N22.6, Soc3, Sosc3, SSI-3, Suppressor of cytokine signaling 3	suppressor of cytokine signaling 3	Cytoplasm	phosphatase		9021	12702	89829
Sodiumtransport SOS			Other Cytoplasm	function group				
STX4	p35-2, STX4A, Syn-4, Syntaxin, syntaxin 4, syntaxin 4A (placental)	syntaxin 4	Plasma Membrane	transporter		6810	20909	81803
SYNIP	6030470M02RIK, RP23-101M12.1, Synip, syntaxin binding protein 4, Synthaxin binding protein 4	syntaxin binding protein 4	Cytoplasm	other		252983	20913	303443
TC10	ARHQ, HEL-S-42, ras homolog family member Q, ras homolog gene family, member Q, RASL7A, Rhot, TC10, TC10 beta, TC10 β , TC10A, Tc10alpha	ras homolog family member Q	Plasma Membrane	enzyme		23433	104215	85428
Transcription			Other	function				

TSC1	Hamartin, LAM, RP23-362N19.3, TSC, tuberous sclerosis 1	tuberous sclerosis 1	TSC1	Cytoplasm	other		7248	64930	60445
Tsc1-Tsc2	TSC			Cytoplasm	complex				
TSC2	LAM, Nafid, PPP1R160, Rc, Tcs2, TSC4, TUBERIN, tuberous sclerosis 2	tuberous sclerosis 2		Cytoplasm	other		7249	22084	24855
VAMP2	mVam2, RATVAMPB, RATVAMPIR, RP23-26L6.8, SYB, SYB2, sybII, Synaptobrevin 2, Vamp ii, vesicle-associated membrane protein 2, vesicle-associated membrane protein 2 (synaptobrevin 2)	vesicle-associated membrane protein 2 (synaptobrevin 2)		Plasma Membrane	other	botulinum toxin type B	6844	22318	24803

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