Mechanism and In Vitro Pharmacology of TAK1 Inhibition by 5Z-7-Oxozeaenol

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Supplemental Table **1.** Growth inhibition of mixed liquid tumour cell lines by TAK1 inhibitor *5Z-7*-Oxozeaenol. GI50 is the concentration of *5Z-7*-Oxozeaenol needed to inhibit the cell growth by 50% comparing to untreated controls. TGI is the concentration required to completely inhibit the growth of treated cells.

Cell line ID	Liquid Tumour Type	GI50 (µM)	pGI50	TGI(µM)	KRAS	NRAS
WSU-DLCL2	DLBCL	0.02	1.70	0.035	ND	ND
IM-9	MM	0.02	1.69	0.137	WT	MUT
OCI-AML2	AML	0.03	1.52	0.074	WT	MUT
JeKo-1	Mantle Cell Lymphoma	0.08	1.11	0.482	ND	ND
OCI-AML5	AML	0.09	1.07	0.548	ND	MUT
KG-1	AML	0.17	0.78	0.391	WT	MUT
OCI-Ly19	DLBCL	0.23	0.63	0.669	ND	MUT
THP-1	AML	0.28	0.55	2.037	WT	MUT
MOLM-16	AML	0.40	0.39	1.553	ND	ND
JVM-3	Chronic B Cell	0.42	0.38	1.598	WT	MUT
CMK	AML	0.51	0.29	1.757	WT	WT
AMO-1	MM	0.57	0.24		ND	ND
NOMO-1	AML	0.57	0.24	5.683	MUT	WT
Ramos	Burkitt's Lymphoma	0.73	0.14	2.077	ND	ND
MEC-1	B-CLL	0.98	0.01	2.676	ND	ND
U-937	Histiocytic Lymphoma	1.03	-0.01	2.816	WT	WT
Jurkat	T Cell Leukemia	1.20	-0.08	6.133	WT	WT
ARH-77	MM	1.25	-0.09	3.641	WT	WT
NAMALWA	Burkitt's Lymphoma	1.27	-0.10	4.071	ND	ND
RPMI 8226	MM	1.42	-0.15	2.626	MUT	WT
SC-1	Follicular Lymphoma	1.44	-0.16	3.522	ND	MUT
Reh	pre-B Cell Leukemia	1.86	-0.27	3.94	WT	WT
K-562	AML	2.51	-0.40	17.62	WT	WT
Raji	Burkitt's Lymphoma	4.79	-0.68	9.753	WT	WT
MOLP-8	MM	10.44	-1.02		ND	ND
L-363	MM	32.43	-1.51		WT	MUT
JJN-3	MM	32.43	-1.51		ND	ND

Supplemental Table **2**: 254 unique genes for 20 AML and NHL cells that are most highly correlated with *5Z*-7-Oxozeaenol sensitivity (see xls file)

Probeset	Pearson's R	Symbol	EntrezID	Type(s)	Entrez Gene Name
214440_at	0.689	NAT1 (includes EG:116632)	9	enzyme	N-acetyltransferase 1 (arylamine N-acetyltransferase)
244814_at	0.677	UGGT1	56886	enzyme	UDP-glucose glycoprotein glucosyltransferase 1
202400_s_at	0.667	SRF	6722	transcription regulator	serum response factor (c-fos serum response element-binding transcription factor)
213150_at	0.664	HOXA10	3206	transcription regulator	homeobox A10
201619_at	0.659	PRDX3	10935	enzyme	peroxiredoxin 3
205412_at	0.655	ACAT1	38	enzyme	acetyl-CoA acetyltransferase 1
218250_s_at	0.653	CNOT7	29883	transcription regulator	CCR4-NOT transcription complex, subunit 7
213147_at	0.641	HOXA10	3206	transcription regulator	homeobox A10
1554860_at	0.634	PTPN7	5778	phosphatase	protein tyrosine phosphatase, non-receptor type 7
231920_s_at	0.633	CSNK1G1	53944	kinase	casein kinase 1, gamma 1
213170_at	0.632	GPX7	2882	enzyme	glutathione peroxidase 7
221934_s_at	0.632	DALRD3	55152	other	DALR anticodon binding domain containing 3
225053_at	0.624	CNOT7	29883	transcription regulator	CCR4-NOT transcription complex, subunit 7
201612_at	0.619	ALDH9A1	223	enzyme	aldehyde dehydrogenase 9 family, member A1
226813_at	0.615	NTPCR	84284	other	nucleoside-triphosphatase, cancer-related
218852_at	0.610	PPP2R3C	55012	other	protein phosphatase 2, regulatory subunit B'', gamma
226136_at	0.604	GLIPR1	11010	other	GLI pathogenesis-related 1
216305_s_at	0.602	GCFC2	6936	transcription	GC-rich sequence DNA-binding factor 2

				regulator	
203604_at	0.602	ZNF516	9658	other	zinc finger protein 516
219281_at	0.601	MSRA	4482	enzyme	methionine sulfoxide reductase A
203585_at	0.599	ZNF185	7739	other	zinc finger protein 185 (LIM domain)
203682_s_at	0.596	IVD	3712	enzyme	isovaleryl-CoA dehydrogenase
216354_at	0.593				
1555390_at	0.592	C14orf21	161424	other	chromosome 14 open reading frame 21
203178_at	0.590	GATM	2628	enzyme	glycine amidinotransferase (L-arginine:glycine amidinotransferase)
206272_at	0.589	RAB4A	5867	enzyme	RAB4A, member RAS oncogene family
204479_at	0.588	OSTF1	26578	transcription regulator	osteoclast stimulating factor 1
218869_at	0.587	MLYCD	23417	enzyme	malonyl-CoA decarboxylase
215088_s_at	0.584	SDHC	6391	enzyme	succinate dehydrogenase complex, subunit C, integral membrane protein, 15kDa
205395_s_at	0.583	MRE11A	4361	enzyme	MRE11 meiotic recombination 11 homolog A (S. cerevisiae)
229971_at	0.580	GPR114	221188	G-protein coupled receptor	G protein-coupled receptor 114
230759_at	0.573	SNX14	57231	transporter	sorting nexin 14
235472_at	0.573	FUT10	84750	enzyme	fucosyltransferase 10 (alpha (1,3) fucosyltransferase)
221495_s_at	0.571	TCF25	22980	transcription regulator	transcription factor 25 (basic helix-loop-helix)
235349_at	0.567	FAM82A1	151393	other	family with sequence similarity 82, member A1
210114_at	0.566	INVS	27130	transcription regulator	inversin
209510_at	0.565	RNF139	11236	enzyme	ring finger protein 139
219492_at	0.564	CHIC2	26511	other	cysteine-rich hydrophobic domain 2
224359_s_at	0.563	HOOK3	84376	other	hook homolog 3 (Drosophila)

216733_s_at	0.562	GATM	2628	enzyme	glycine amidinotransferase (L-arginine:glycine amidinotransferase)
225515_s_at	0.561	RPL7L1	285855	transcription regulator	ribosomal protein L7-like 1
214334_x_at	0.560	DAZAP2	9802	other	DAZ associated protein 2
216202_s_at	0.558	SPTLC2	9517	enzyme	serine palmitoyltransferase, long chain base subunit 2
203581_at	0.556	RAB4A	5867	enzyme	RAB4A, member RAS oncogene family
212041_at	0.554	ATP6V0D1	9114	transporter	ATPase, H+ transporting, lysosomal 38kDa, V0 subunit d1
204838_s_at	0.554	MLH3 (includes EG:217716)	27030	other	mutL homolog 3 (E. coli)
206687_s_at	0.553	PTPN6	5777	phosphatase	protein tyrosine phosphatase, non-receptor type 6
227937_at	0.553	MYPOP	339344	transcription regulator	Myb-related transcription factor, partner of profilin
229590_at	0.549	RPL13	6137	other	ribosomal protein L13
200007_at	0.548	SRP14 (includes EG:20813)	6727	other	signal recognition particle 14kDa (homologous Alu RNA binding protein)
200794_x_at	0.548	DAZAP2	9802	other	DAZ associated protein 2
230852_at	0.547	STAC3	246329	other	SH3 and cysteine rich domain 3
213728_at	0.543	LAMP1	3916	other	lysosomal-associated membrane protein 1
208620_at	0.543	PCBP1	5093	translation regulator	poly(rC) binding protein 1
225534_at	0.542	C8orf40	114926	other	chromosome 8 open reading frame 40
231069_at	0.541				
210131_x_at	0.541	SDHC	6391	enzyme	succinate dehydrogenase complex, subunit C, integral membrane protein, 15kDa
226906_s_at	0.540	ARHGAP9	64333	other	Rho GTPase activating protein 9
223272_s_at	0.540	NTPCR	84284	other	nucleoside-triphosphatase, cancer-related

1556285_s_at	0.540	PPA2 (includes EG:27068)	27068	enzyme	pyrophosphatase (inorganic) 2
206500_s_at	0.540	MIS18BP1	55320	other	MIS18 binding protein 1
213005_s_at	0.540	KANK1	23189	transcription regulator	KN motif and ankyrin repeat domains 1
210314_x_at	0.539	TNFSF13	8741	cytokine	tumor necrosis factor (ligand) superfamily, member 13
1555358_a_at	0.539	ENTPD4	9583	enzyme	ectonucleoside triphosphate diphosphohydrolase 4
204813_at	0.538	MAPK10	5602	kinase	mitogen-activated protein kinase 10
204221_x_at	0.537	GLIPR1	11010	other	GLI pathogenesis-related 1
213476_x_at	0.537	TUBB3	10381	other	tubulin, beta 3 class III
239761_at	0.533	GCNT1	2650	enzyme	glucosaminyl (N-acetyl) transferase 1, core 2
203185_at	0.533	RASSF2	9770	other	Ras association (RalGDS/AF-6) domain family member 2
217818_s_at	0.533	ARPC4	10093	other	actin related protein 2/3 complex, subunit 4, 20kDa
200650_s_at	0.532	LDHA	3939	enzyme	lactate dehydrogenase A
231059_x_at	0.531	SCAND1	51282	transcription regulator	SCAN domain containing 1
203582_s_at	0.531	RAB4A	5867	enzyme	RAB4A, member RAS oncogene family
222992_s_at	0.531	NDUFB9	4715	enzyme	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 9, 22kDa
201245_s_at	0.530	OTUB1	55611	enzyme	OTU domain, ubiquitin aldehyde binding 1
214735_at	0.528	IPCEF1	26034	enzyme	interaction protein for cytohesin exchange factors 1
235324_at	0.527	SRSF3	6428	other	serine/arginine-rich splicing factor 3
202783_at	0.526	NNT	23530	enzyme	nicotinamide nucleotide transhydrogenase
224076_s_at	0.526	WHSC1L1	54904	enzyme	Wolf-Hirschhorn syndrome candidate 1-like 1
200009_at	0.525	GDI2	2665	other	GDP dissociation inhibitor 2
214687_x_at	0.524	ALDOA	226	enzyme	aldolase A, fructose-bisphosphate
223356_s_at	0.524	MTIF3	219402	translation regulator	mitochondrial translational initiation factor 3

226661_at	0.523	CDCA2	157313	other	cell division cycle associated 2
223976_at	0.523	FUT10	84750	enzyme	fucosyltransferase 10 (alpha (1,3) fucosyltransferase)
226630_at	0.522	MIS18BP1	55320	other	MIS18 binding protein 1
1555730_a_at	0.522	CFL1	1072	other	cofilin 1 (non-muscle)
221648_s_at	0.521	AGMAT	79814	enzyme	agmatine ureohydrolase (agmatinase)
203430_at	0.521	HEBP2	23593	other	heme binding protein 2
1554342_s_at	0.521	HELQ	113510	enzyme	helicase, POLQ-like
217995_at	0.519	SQRDL	58472	enzyme	sulfide quinone reductase-like (yeast)
214005_at	0.519	GGCX	2677	enzyme	gamma-glutamyl carboxylase
214006_s_at	0.518	GGCX	2677	enzyme	gamma-glutamyl carboxylase
209342_s_at	0.518	IKBKB	3551	kinase	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
232543_x_at	0.517	ARHGAP9	64333	other	Rho GTPase activating protein 9
227056_at	0.517	KIAA0141	9812	other	KIAA0141
200653_s_at	0.516	CALM1 (includes others)	801	other	calmodulin 1 (phosphorylase kinase, delta)
219078_at	0.516	GPATCH2	55105	other	G patch domain containing 2
220741_s_at	0.515	PPA2 (includes EG:27068)	27068	enzyme	pyrophosphatase (inorganic) 2
202681_at	0.514	USP4	7375	peptidase	ubiquitin specific peptidase 4 (proto-oncogene)
227263_at	0.514	C8orf58	541565	other	chromosome 8 open reading frame 58
228331_at	0.514	C11orf31	280636	other	chromosome 11 open reading frame 31
1552977_a_at	0.513	CNPY3	10695	other	canopy 3 homolog (zebrafish)
214545_s_at	0.513	PROSC	11212	enzyme	proline synthetase co-transcribed homolog (bacterial)
225471_s_at	0.513	AKT2	208	kinase	v-akt murine thymoma viral oncogene homolog 2

228778_at	0.512	MCPH1 (includes EG:244329)	79648	other	microcephalin 1
225347_at	0.511	ARL8A	127829	enzyme	ADP-ribosylation factor-like 8A
212609_s_at	0.510	AKT3	10000	kinase	v-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma)
220712_at	0.510				
213572_s_at	0.509	SERPINB1	1992	other	serpin peptidase inhibitor, clade B (ovalbumin), member 1
224316_at	0.508				
201716_at	0.508	SNX1	6642	transporter	sorting nexin 1
208911_s_at	0.507	PDHB	5162	enzyme	pyruvate dehydrogenase (lipoamide) beta
222544_s_at	0.506	WHSC1L1	54904	enzyme	Wolf-Hirschhorn syndrome candidate 1-like 1
203458_at	0.505	SPR (includes EG:20751)	6697	enzyme	sepiapterin reductase (7,8-dihydrobiopterin:NADP+ oxidoreductase)
219757_s_at	0.505	C14orf101	54916	other	chromosome 14 open reading frame 101
222752_s_at	0.505	TMEM206	55248	other	transmembrane protein 206
223892_s_at	0.505	TMBIM4	51643	other	transmembrane BAX inhibitor motif containing 4
220775_s_at	0.504	UEVLD	55293	enzyme	UEV and lactate/malate dehyrogenase domains
205406_s_at	0.504	SPA17	53340	other	sperm autoantigenic protein 17
1554036_at	0.504	ZBTB24	9841	other	zinc finger and BTB domain containing 24
201040_at	0.504	GNAI2	2771	enzyme	guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 2
204766_s_at	0.504	NUDT1	4521	phosphatase	nudix (nucleoside diphosphate linked moiety X)-type motif 1
204312_x_at	0.503	CREB1	1385	transcription regulator	cAMP responsive element binding protein 1
209385_s_at	0.503	PROSC	11212	enzyme	proline synthetase co-transcribed homolog

					(bacterial)
211672_s_at	0.502	ARPC4	100526693	other	actin related protein 2/3 complex, subunit 4, 20kDa
205147_x_at	0.502	NCF4	4689	enzyme	neutrophil cytosolic factor 4, 40kDa
242968_at	0.502				
232231_at	0.502	RUNX2	860	transcription regulator	runt-related transcription factor 2
227345_at	0.502	TNFRSF10D	8793	transmembrane receptor	tumor necrosis factor receptor superfamily, member 10d, decoy with truncated death domain
207040_s_at	0.501	ST13	6767	other	suppression of tumorigenicity 13 (colon carcinoma) (Hsp70 interacting protein)
242794_at	0.500	MAML3	55534	transcription regulator	mastermind-like 3 (Drosophila)
220215_at	0.500	ZNF669	79862	other	zinc finger protein 669
207677_s_at	0.500	NCF4	4689	enzyme	neutrophil cytosolic factor 4, 40kDa
202024_at	0.499	ASNA1	439	transporter	arsA arsenite transporter, ATP-binding, homolog 1 (bacterial)
217983_s_at	0.499	RNASET2	8635	enzyme	ribonuclease T2
206263_at	0.498	FMO4	2329	enzyme	flavin containing monooxygenase 4
226150_at	0.498	PPAPDC1B	84513	phosphatase	phosphatidic acid phosphatase type 2 domain containing 1B
219079_at	0.498	CYB5R4	51167	enzyme	cytochrome b5 reductase 4
209675_s_at	0.498	HNRNPUL1	11100	other	heterogeneous nuclear ribonucleoprotein U-like 1
202004_x_at	0.497	SDHC	6391	enzyme	succinate dehydrogenase complex, subunit C, integral membrane protein, 15kDa
218481_at	0.497	EXOSC5	56915	enzyme	exosome component 5
204222_s_at	0.497	GLIPR1	11010	other	GLI pathogenesis-related 1
203865_s_at	0.497	ADARB1	104	enzyme	adenosine deaminase, RNA-specific, B1
224710_at	0.496	RAB34	83871	enzyme	RAB34, member RAS oncogene family
218154_at	0.496	GSDMD	79792	other	gasdermin D

204800_s_at	0.496	DHRS12	79758	other	dehydrogenase/reductase (SDR family) member 12
218291_at	0.496	LAMTOR2	28956	other	late endosomal/lysosomal adaptor, MAPK and MTOR activator 2
235354_s_at	0.495	RSRC1	51319	other	arginine/serine-rich coiled-coil 1
221188_s_at	0.495	CIDEB	27141	other	cell death-inducing DFFA-like effector b
218149_s_at	0.494	ZNF395	55893	other	zinc finger protein 395
223191_at	0.493	COX16 (includes EG:51241)	51241	other	COX16 cytochrome c oxidase assembly homolog (S. cerevisiae)
219507_at	0.493	RSRC1	51319	other	arginine/serine-rich coiled-coil 1
221845_s_at	0.493	CLPB	81570	transcription regulator	ClpB caseinolytic peptidase B homolog (E. coli)
1552807_a_at	0.493	SIGLEC10	89790	other	sialic acid binding Ig-like lectin 10
205791_x_at	0.492				
202030_at	0.492	BCKDK	10295	kinase	branched chain ketoacid dehydrogenase kinase
226361_at	0.492	TMEM42	131616	other	transmembrane protein 42
221611_s_at	0.492	PHF7	51533	other	PHD finger protein 7
217984_at	0.492	RNASET2	8635	enzyme	ribonuclease T2
219624_at	0.492	BAG4	9530	other	BCL2-associated athanogene 4
218946_at	0.492	NFU1	27247	other	NFU1 iron-sulfur cluster scaffold homolog (S. cerevisiae)
1555595_at	0.492	SCRN3	79634	other	secernin 3
212936_at	0.491	FAM172A	83989	transcription regulator	family with sequence similarity 172, member A
216591_s_at	0.491	SDHC	6391	enzyme	succinate dehydrogenase complex, subunit C, integral membrane protein, 15kDa
212975_at	0.490	DENND3	22898	other	DENN/MADD domain containing 3

201007_at	0.490	HADHB	3032	enzyme	hydroxyacyl-CoA dehydrogenase/3-ketoacyl-CoA thiolase/enoyl-CoA hydratase (trifunctional protein), beta subunit
222845_x_at	0.490	TMBIM4	51643	other	transmembrane BAX inhibitor motif containing 4
219409_at	0.490	SNIP1	79753	other	Smad nuclear interacting protein 1
228726_at	0.490	SERPINB1	1992	other	serpin peptidase inhibitor, clade B (ovalbumin), member 1
228030_at	0.490	RBM6	10180	other	RNA binding motif protein 6
224931_at	0.490	SLC41A3	54946	transporter	solute carrier family 41, member 3
217817_at	0.489	ARPC4	10093	other	actin related protein 2/3 complex, subunit 4, 20kDa
206348_s_at	0.488	PDK3	5165	kinase	pyruvate dehydrogenase kinase, isozyme 3
210046_s_at	0.488	IDH2	3418	enzyme	isocitrate dehydrogenase 2 (NADP+), mitochondrial
215210_s_at	0.488	DLST	1743	enzyme	dihydrolipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex)
200660_at	0.488	S100A11	6282	other	S100 calcium binding protein A11
227808_at	0.487	DNAJC15	29103	other	DnaJ (Hsp40) homolog, subfamily C, member 15
214873_at	0.487	LRP5L	91355	other	low density lipoprotein receptor-related protein 5-like
200966_x_at	0.487	ALDOA	226	enzyme	aldolase A, fructose-bisphosphate
AFFX-HSAC07/X00351_5_at	0.486	ACTB	60	other	actin, beta
222243_s_at	0.486	TOB2	10766	other	transducer of ERBB2, 2
216411_s_at	0.485	GALK2	2585	kinase	galactokinase 2
224674_at	0.485	TTYH3	80727	ion channel	tweety homolog 3 (Drosophila)
228869_at	0.485	SNX20	124460	other	sorting nexin 20
211969_at	0.485	HSP90AA1	3320	enzyme	heat shock protein 90kDa alpha (cytosolic), class A member 1
206452_x_at	0.484	PPP2R4	5524	phosphatase	protein phosphatase 2A activator, regulatory

					subunit 4
203127_s_at	0.484	SPTLC2	9517	enzyme	serine palmitoyltransferase, long chain base subunit 2
213513_x_at	0.484	ARPC2	10109	other	actin related protein 2/3 complex, subunit 2, 34kDa
1555630_a_at	0.483	RAB34	83871	enzyme	RAB34, member RAS oncogene family
204039_at	0.483	CEBPA	1050	transcription regulator	CCAAT/enhancer binding protein (C/EBP), alpha
221935_s_at	0.483	C3orf64	285203	other	chromosome 3 open reading frame 64
203607_at	0.483	INPP5F	22876	other	inositol polyphosphate-5-phosphatase F
227777_at	0.483	FAM208B	54906	other	family with sequence similarity 208, member B
214937_x_at	0.483	PCM1	5108	other	pericentriolar material 1
217691_x_at	0.482	SLC16A3	9123	transporter	solute carrier family 16, member 3 (monocarboxylic acid transporter 4)
244050_at	0.482	PTPLAD2	401494	other	protein tyrosine phosphatase-like A domain containing 2
214085_x_at	0.481	GLIPR1	11010	other	GLI pathogenesis-related 1
236492_at	0.481	PPP2R2A	5520	phosphatase	protein phosphatase 2, regulatory subunit B, alpha
205204_at	0.480	NMB	4828	other	neuromedin B
230176_at	0.480				
218383_at	0.480	HAUS4	54930	other	HAUS augmin-like complex, subunit 4
209876_at	0.480	GIT2	9815	other	G protein-coupled receptor kinase interacting ArfGAP 2
211762_s_at	0.480	KPNA2	3838	transporter	karyopherin alpha 2 (RAG cohort 1, importin alpha 1)
217645_at	0.479	COX16 (includes EG:51241)	51241	other	COX16 cytochrome c oxidase assembly homolog (S. cerevisiae)
235802_at	0.479	PLD4	122618	enzyme	phospholipase D family, member 4
1563629_a_at	0.479	ERVK13-1	100507321	other	endogenous retrovirus group K13, member 1

225908_at	0.478	IAH1 (includes EG:285148)	285148	other	isoamyl acetate-hydrolyzing esterase 1 homolog (S. cerevisiae)
202432_at	0.478	PPP3CB	5532	phosphatase	protein phosphatase 3, catalytic subunit, beta isozyme
204852_s_at	0.478	PTPN7	5778	phosphatase	protein tyrosine phosphatase, non-receptor type 7
221267_s_at	0.478	FAM108A1	81926	enzyme	family with sequence similarity 108, member A1
228011_at	0.478	FAM92A1	137392	other	family with sequence similarity 92, member A1
226554_at	0.478	ZBTB7A	51341	transcription regulator	zinc finger and BTB domain containing 7A
206928_at	0.478	ZNF124	7678	other	zinc finger protein 124
209215_at	0.477	MFSD10	10227	transporter	major facilitator superfamily domain containing 10
201311_s_at	0.477	SH3BGRL	6451	other	SH3 domain binding glutamic acid-rich protein like
1557801_x_at	0.477	C11orf31	280636	other	chromosome 11 open reading frame 31
40640_at	0.477	NCAPH2	29781	other	non-SMC condensin II complex, subunit H2
204081_at	0.477	NRGN	4900	other	neurogranin (protein kinase C substrate, RC3)
226493_at	0.476	KCTD18	130535	other	potassium channel tetramerisation domain containing 18
211715_s_at	0.476	BDH1 (includes EG:100037356)	622	enzyme	3-hydroxybutyrate dehydrogenase, type 1
208845_at	0.476	VDAC3	7419	ion channel	voltage-dependent anion channel 3
225562_at	0.475	RASA3	22821	ion channel	RAS p21 protein activator 3
215933_s_at	0.474	HHEX	3087	transcription regulator	hematopoietically expressed homeobox
211495_x_at	0.474	TNFSF13	8741	cytokine	tumor necrosis factor (ligand) superfamily, member 13
209500_x_at	0.474	TNFSF13	8741	cytokine	tumor necrosis factor (ligand) superfamily, member 13

204305_at	0.473	MIPEP	4285	peptidase	mitochondrial intermediate peptidase
205407_at	0.472	RECK	8434	other	reversion-inducing-cysteine-rich protein with kazal motifs
222269_at	0.472	APOOL	139322	other	apolipoprotein O-like
212268_at	0.472	SERPINB1	1992	other	serpin peptidase inhibitor, clade B (ovalbumin), member 1
208736_at	0.472	ARPC3	10094	other	actin related protein 2/3 complex, subunit 3, 21kDa
91682_at	0.472	EXOSC4	54512	enzyme	exosome component 4
221957_at	0.471	PDK3	5165	kinase	pyruvate dehydrogenase kinase, isozyme 3
212595_s_at	0.471	DAZAP2	9802	other	DAZ associated protein 2
201105_at	0.471	LGALS1	3956	other	lectin, galactoside-binding, soluble, 1
226937_at	0.471	CRLS1	54675	enzyme	cardiolipin synthase 1
1552472_a_at	0.470	ACAP2	23527	other	ArfGAP with coiled-coil, ankyrin repeat and PH domains 2
227017_at	0.470	ERICH1	157697	other	glutamate-rich 1
227410_at	0.470	FAM43A	131583	other	family with sequence similarity 43, member A
230866_at	0.470	CYSLTR1	10800	G-protein coupled receptor	cysteinyl leukotriene receptor 1
223029_s_at	0.470	TRAF7	84231	enzyme	TNF receptor-associated factor 7, E3 ubiquitin protein ligase
225306_s_at	0.470	SLC25A29	123096	transporter	solute carrier family 25, member 29
204554_at	0.469	PPP1R3D	5509	phosphatase	protein phosphatase 1, regulatory subunit 3D
213896_x_at	0.469	FAM149B1	317662	other	family with sequence similarity 149, member B1
219206_x_at	0.468	TMBIM4	51643	other	transmembrane BAX inhibitor motif containing 4
200978_at	0.468	MDH1	4190	enzyme	malate dehydrogenase 1, NAD (soluble)
218872_at	0.467	TESC	54997	other	tescalcin
1553957_at	0.467	ZNF564	163050	other	zinc finger protein 564
210045_at	0.467	IDH2	3418	enzyme	isocitrate dehydrogenase 2 (NADP+), mitochondrial
201284_s_at	0.466	APEH	327	peptidase	N-acylaminoacyl-peptide hydrolase

212991_at	0.465	FBXO9	26268	enzyme	F-box protein 9
212043_at	0.465	TGOLN2	10618	other	trans-golgi network protein 2
224451_x_at	0.465	ARHGAP9	64333	other	Rho GTPase activating protein 9
AFFX-HSAC07/X00351_M_at	0.465	ACTB	60	other	actin, beta
209123_at	0.465	QDPR	5860	enzyme	quinoid dihydropteridine reductase
221036_s_at	0.464	APH1B	83464	peptidase	anterior pharynx defective 1 homolog B (C. elegans)
212063_at	0.464	CD44 (includes EG:100330801)	960	enzyme	CD44 molecule (Indian blood group)
1569409_x_at	0.464				
205917_at	0.463	ZNF264/ZNF805	9422	other	zinc finger protein 264
217947_at	0.463	CMTM6	54918	cytokine	CKLF-like MARVEL transmembrane domain containing 6
223592_s_at	0.462	RNF135	84282	enzyme	ring finger protein 135
235316_at	0.462	NAT8L	339983	enzyme	N-acetyltransferase 8-like (GCN5-related, putative)
227567_at	0.462	LOC100499466	100499466	other	uncharacterized LOC100499466
1557415_s_at	0.461	LETM2	137994	other	leucine zipper-EF-hand containing transmembrane protein 2
202100_at	0.461	RALB	5899	enzyme	v-ral simian leukemia viral oncogene homolog B (ras related; GTP binding protein)
223583_at	0.461	TNFAIP8L2	79626	other	tumor necrosis factor, alpha-induced protein 8-like 2
228332_s_at	0.461	C11orf31	280636	other	chromosome 11 open reading frame 31
214244_s_at	0.460	ATP6V0E1	8992	transporter	ATPase, H+ transporting, lysosomal 9kDa, V0 subunit e1

209009_at	0.460	ESD	2098	enzyme	esterase D
224677_x_at	0.460	C11orf31	280636	other	chromosome 11 open reading frame 31
201892_s_at	0.460	IMPDH2	3615	enzyme	IMP (inosine 5'-monophosphate) dehydrogenase 2
221666_s_at	0.460	PYCARD	29108	transcription regulator	PYD and CARD domain containing
211686_s_at	0.460	MAK16	84549	other	MAK16 homolog (S. cerevisiae)
200824_at	0.460	GSTP1	2950	enzyme	glutathione S-transferase pi 1
1554516_at	0.460	LINC00537	203274	other	long intergenic non-protein coding RNA 537
223824_at	0.459	RNLS	55328	other	renalase, FAD-dependent amine oxidase
203236_s_at	0.459	LGALS9	3965	other	lectin, galactoside-binding, soluble, 9
222113_s_at	0.459	EPS15L1	58513	other	epidermal growth factor receptor pathway substrate 15-like 1
202682_s_at	0.458	USP4	7375	peptidase	ubiquitin specific peptidase 4 (proto-oncogene)
234749_s_at	0.458	POC1A	25886	peptidase	POC1 centriolar protein homolog A (Chlamydomonas)
212402_at	0.458	ZC3H13	23091	other	zinc finger CCCH-type containing 13
219183_s_at	0.458	CYTH4	27128	other	cytohesin 4
233589_x_at	0.457	C9orf167	54863	other	chromosome 9 open reading frame 167
218017_s_at	0.457	HGSNAT	138050	other	heparan-alpha-glucosaminide N-acetyltransferase
226142_at	0.457	GLIPR1	11010	other	GLI pathogenesis-related 1
200736_s_at	0.457	GPX1 (includes EG:14775)	2876	enzyme	glutathione peroxidase 1
229251_s_at	0.456	TPCN2	219931	ion channel	two pore segment channel 2
215622_x_at	0.456	PHF7	51533	other	PHD finger protein 7
231045_x_at	0.455	C11orf31	280636	other	chromosome 11 open reading frame 31
218760_at	0.455	COQ6	51004	enzyme	coenzyme Q6 homolog, monooxygenase (S. cerevisiae)

222017_x_at	0.455	LRCH4	4034	transcription regulator	leucine-rich repeats and calponin homology (CH) domain containing 4
202120_x_at	0.455	AP2S1	1175	transporter	adaptor-related protein complex 2, sigma 1 subunit
238684_at	0.454	SETDB2	83852	enzyme	SET domain, bifurcated 2
78047_s_at	0.454				
217118_s_at	0.454	KIAA0930	23313	other	KIAA0930
207585_s_at	0.454	RPL36AL	6166	other	ribosomal protein L36a-like
213509_x_at	0.454	CES2	8824	enzyme	carboxylesterase 2
242838_at	0.454	MAP6D1	79929	other	MAP6 domain containing 1
1555847_a_at	0.453	LOC284454	284454	other	uncharacterized LOC284454
224301_x_at	0.453	H2AFJ	55766	other	H2A histone family, member J
49878_at	0.453	PEX16	9409	other	peroxisomal biogenesis factor 16
203028_s_at	0.453	CYBA	1535	enzyme	cytochrome b-245, alpha polypeptide
217931_at	0.453	CNPY3	10695	other	canopy 3 homolog (zebrafish)
232034_at	0.453	LINC00537	203274	other	long intergenic non-protein coding RNA 537
202218_s_at	0.452	FADS2	9415	enzyme	fatty acid desaturase 2
235796_at	0.452				
205191_at	0.452	RP2	6102	enzyme	retinitis pigmentosa 2 (X-linked recessive)
203941_at	0.452	INTS9	55756	other	integrator complex subunit 9
200098_s_at	0.452	ANAPC5	51433	enzyme	anaphase promoting complex subunit 5
202154_x_at	0.451	TUBB3	10381	other	tubulin, beta 3 class III
218729_at	0.451	LXN	56925	other	latexin
214531_s_at	0.450	SNX1	6642	transporter	sorting nexin 1
201957_at	0.450	PPP1R12B	4660	phosphatase	protein phosphatase 1, regulatory subunit 12B

Supplemental Table **3**: Top canonical pathways enriched from 254 genes correlated to TAK1 inhibition by Ingenuity's IPA analysis.

Ingenuity Canonical Pathways	-log(p-value)	Ratio	Molecules
CD28 Signaling in T Helper Cells	5.540	0.076	IKBKB,AKT2,PTPN6,PPP3CB,CALM1 (includes others),ARPC2,ARPC4,MAPK10,AKT3,ARPC3
Production of Nitric Oxide and Reactive Oxygen Species in Macrophages	4.640	0.052	IKBKB,AKT2,PPP1R3D,PTPN6,PPP2R4,PPP2R2A,CYBA,HOXA10,MAPK10,AKT3,NCF4
RhoGDI Signaling	4.000	0.050	GNAI2,ARHGAP9,CFL1,ARPC2,ACTB,ARPC4,CD44 (includes EG:100330801),PPP1R12B,GDI2,ARPC3
Butanoate Metabolism	3.930	0.047	HADHB,BDH1 (includes EG:100037356),ACAT1,SDHC,PDHB,ALDH9A1
Fcγ Receptor-mediated Phagocytosis in Macrophages and Monocytes	3.660	0.069	PLD4,AKT2,ARPC2,ACTB,ARPC4,AKT3,ARPC3
Citrate Cycle	3.280	0.070	DLST,IDH2,SDHC,MDH1
RhoA Signaling	3.190	0.061	ARHGAP9,CFL1,ARPC2,ACTB,ARPC4,PPP1R12B,ARPC3
Propanoate Metabolism	3.130	0.041	HADHB,ACAT1,MLYCD,ALDH9A1,LDHA
Regulation of Actin-based Motility by Rho	3.090	0.066	CFL1,ARPC2,ACTB,ARPC4,PPP1R12B,ARPC3
RANK Signaling in Osteoclasts	3.010	0.063	IKBKB,AKT2,PPP3CB,CALM1 (includes others),MAPK10,AKT3
Lysine Degradation	2.950	0.037	HADHB,WHSC1L1,DLST,ACAT1,ALDH9A1
CTLA4 Signaling in Cytotoxic T Lymphocytes	2.880	0.061	AKT2,PTPN6,PPP2R4,PPP2R2A,AKT3,AP2S1
Dopamine-DARPP32 Feedback in cAMP Signaling	2.840	0.043	GNAI2,PPP1R3D,CSNK1G1,PPP3CB,CALM1 (includes others),PPP2R4,PPP2R2A,CREB1
Ephrin Receptor Signaling	2.710	0.040	GNAI2,AKT2,CFL1,ARPC2,CREB1,ARPC4,AKT3,ARPC3
Pyruvate Metabolism	2.650	0.036	ACAT1,MDH1,PDHB,ALDH9A1,LDHA
B Cell Receptor Signaling	2.540	0.045	IKBKB,AKT2,PTPN6,PPP3CB,CALM1 (includes others),CREB1,AKT3
fMLP Signaling in Neutrophils	2.530	0.047	GNAI2,PPP3CB,CALM1 (includes others),ARPC2,ARPC4,ARPC3
ILK Signaling	2.520	0.042	AKT2,CFL1,PPP2R4,PPP2R2A,ACTB,CREB1,MAPK10,AKT3
Dopamine Receptor Signaling	2.500	0.053	PPP1R3D,PPP2R4,PPP2R2A,SPR (includes EG:20751),QDPR
IL-22 Signaling	2.440	0.120	AKT2,MAPK10,AKT3
Prostate Cancer Signaling	2.380	0.052	AKT2,CREB1,HSP90AA1,AKT3,GSTP1
PI3K/AKT Signaling	2.340	0.043	IKBKB,AKT2,PPP2R4,PPP2R2A,HSP90AA1,AKT3
Integrin Signaling	2.320	0.038	AKT2,ARPC2,ACTB,RALB,ARPC4,PPP1R12B,AKT3,ARPC3
Gap Junction Signaling	2.270	0.039	GNAI2,AKT2,TUBB3,CSNK1G1,PPP3CB,ACTB,AKT3
Actin Nucleation by ARP-WASP Complex	2.210	0.061	ARPC2,ARPC4,PPP1R12B,ARPC3

Supplemental Table **4**: Kinase selectivity profile of *5Z-7*-Oxozeaenol tested at 1μM against 85 kinases in Millipore panel.

Kinase	% inhibition (1μM)	Kinase	% inhibition (1μM)	Kinase	% inhibition (1μM)
PKD2(h)	100	SRPK1(h)	12	NEK7(h)	-3
IKKα(h)	99	CK1(y)	11	PAK2(h)	-3
Mnk2(h)	99	JNK1α1(h)	11	PDK1(h)	-3
TAK1(h)	99	BrSK2(h)	9	Axl(h)	-4
Flt4(h)	97	MLK1(h)	9	CK1γ1(h)	-4
Flt3(h)	95	CLK3(h)	6	CDK2/cyclinA(h)	-5
KDR(h)	90	MELK(h)	5	CK2(h)	-5
TrkA(h)	84	Rsk1(h)	5	c-RAF(h)	-6
PDGFRα(h)	82	IGF-1R(h)	4	DDR2(h)	-6
MKK4(m)	68	Plk3(h)	4	HIPK1(h)	-6
NLK(h)	63	BTK(h)	3	LKB1(h)	-6
MEK1(h)	56	Itk(h)	3	PKA(h)	-6
LOK(h)	42	Aurora-A(h)	2	SAPK2a(h)	-6
ALK(h)	35	MINK(h)	2	CK2α2(h)	-7
GSK3β(h)	35	PhKγ2(h)	2	TSSK2(h)	-7
MAPK1(h)	35	SIK(h)	2	Met(h)	-9
Abl(h)	31	MSSK1(h)	1	Pim-2(h)	-10
IRAK4(h)	28	PKBβ(h)	1	ASK1(h)	-11
Fms(h)	25	cKit(h)	0	Tie2(h)	-11
MRCKα(h)	25	DAPK1(h)	0	VRK2(h)	-11
JAK2(h)	22	GRK7(h)	0	GRK5(h)	-12
Ret(h)	22	FGFR1(h)	-1	FAK(h)	-16
CaMKIIγ(h)	19	GRK6(h)	-1	MAPKAP-K2(h)	-17
cSRC(h)	18	STK33(h)	-1	NEK2(h)	-17
Fgr(h)	18	ARK5(h)	-2	CSK(h)	-20
GSK3α(h)	16	DYRK2(h)	-2	ALK4(h)	-22
LIMK1(h)	15	EGFR(h)	-2	CHK1(h)	-39
EphB4(h)	13	p70S6K(h)	-2		

EphA7(h)	12	PKCζ(h)	-2		