Mol ID	Molecule Name	MW	OB (%)	Suppleme DL
MOL000561	Astragalin	448.41	14.03	0.74
MOL010893	Brevioflin carboxylic acid/(1S)-7,8,9-trihydroxy-3,5-dioxo-1,2-dihydrocyclopenta[c] isochromene-1-carboxylic acid	292.21	7.94	0.27
MOL000234	L-Limonen/limonene/terpenes	136.26	38.09	0.02
MOL000356	Lupeol	426.80	12.12	0.78
MOL000719	Methyl salicylate	152.16	42.55	0.03
MOL006812	Phyllanthin	418.58	33.31	0.42
MOL000098	Quercetin/quercetol	302.25	46.43	0.28
MOL000701	Quercitrin	448.41	4.04	0.74
MOL000415	Rutin	610.57	3.2	0.68

MOL010898	Escin/saponins	1,131.41	1.84	0.04
	Nirtetralin	430.50		
	Nirurin	664.60		
	Nirphyllin	448.50		
	Niruriside	770.70		
	Cubebin dimethyl ether	386.40		
MOL010919	17-beta-estradiol	272.42	12.41	0.32
MOL002005	Hinokinin	354.38	56.5	0.64
	Hypophyllanthin	430.50		
	Isolintetralin	400.50		
	Lintetralin	400.50		
	Norsecurinine	203.24		
	Phyllnirurin	342.40		

	Phyllochrysine	217.26		
	Phyltetralin	416.50		
	Securinine	217.26		
	Urinatetralin	384.40		
MOL000431	Coumarin	146.15	29.17	0.04
MOL010246	Flavonol	238.25	47.91	0.16
MOL006323	Geraniin	952.68	47.99	0.02
	Ellagitannin	992.70		
MOL001002	Ellagic acid	302.20	43.06	0.43
MOL002249	Gallocatechin	306.29	2.26	0.27
	Niruriflavone	364.30		
MOL000117	Cymol/p-cymene	134.24	27.2	0.02

MOL000513	3,4,5-trihydroxybenzoic acid/gallic acid	170.13	31.69	0.04
MOL006179	2-(6-carboxy-2,3,4-trihydroxyphenyl)-3,4,5-trihydroxybenzoic acid/HHDP/Hexahydroxyldiphenoyl	338.24	15.21	0.27
	Methyl brevifolincarboxylate	306.22		
	Niranthin	432.50		
MOL000559	Repandusinic acid A	970.70	3.01	0.09
MOL005079	Corilagin	634.49	3.01	0.44
MOL000546	Diosgenin	414.69	80.88	0.81
	Phyllanthine	247.29		
MOL006832	beta-Glucogallin	332.29	17.89	0.25

	1-O-galloyl-6-O-luteoyl-α-D-glucose	634.50		
	Triacontanal	436.80		
MOL000437	Hirsutrin/isoquercitrin	464.41	1.86	0.77
MOL000492	(+)-catechin	290.29	54.83	0.24
MOL006798	Pedunculagin	784.57	37.81	0.07
MOL006825	Chebulagic acid	954.70	3.01	0.03
MOL000358	beta-Sitosterol	414.79	36.91	0.75
	Kaempferol 4'-rhamnoside	432.40		
	Fisetin 4'-glucoside	448.40		
MOL012430	Eriodictin	434.43	29.48	0.74

	4-Methoxynorsecurinin	233.26		
MOL006815	Punigluconin	802.59	3.01	0.3
	Niruriside	770.70		
	4-sinapoylquinic acid	398.40		
	1-caffeoyl-5-feruloylquinic acid	530.50		
	3-hydroxyphloretin 2'-O-xylosylglucoside	584.50		
	7-hydroxysecoisolariciresinol	378.40		
	8,5'-diferulic acid/(+)-Dca-CC	386.40		
	Caffeic acid 3-sulfate	260.22		
	Cyanidin 3-(6''-acetylglucoside)/cyanidin 3-O-(6-O-acetyl-β-D-glucoside)	491.40		

Supplementary Table S2. Bioactive components of *Phyllanthus niruri*

Mol ID	Molecule Name	MW	InChlKey	Canonical Smiles
MOL010893	Brevioflin carboxylic acid/(1S)-7,8,9-trihydroxy-3,5-dioxo-1,2-dihydrocyclopenta[c] isochromene-1-carboxylic acid	292.21	JFJWMFPFMLRLMI-VKHMYHEASA-N	C1C(C2=C(C1=O)OC(=O)C3=CC(=C(C(=C32)O)O)O)C(=O)O
MOL000234	L-Limonen/limonene/terpenes	136.26	XMGQYMWWDOXHJM-SNVBAGLBSA-N	CC1=CCC(CC1)C(=C)C
MOL000356	Lupeol	426.80	MQYXUWHLBZFQQO-QGTGJCAVSA-N	CC(=C)C1CCC2(C1C3CCC4C5(CCC(C(C5CCC4(C3(CC2)C)C)(C)C)O)C)C
MOL000719	Methyl salicylate	152.16	OSWPMRLSEDHDFF-UHFFFAOYSA-N	COC(=O)C1=CC=CC=C1O
MOL006812	Phyllanthin	418.58	KFLQGJQSLUYUBF-WOJBJXKFSA-N	COCC(CC1=CC(=C(C=C1)OC)OC)C(CC2=CC(=C(C=C2)OC)OC)COC

MOL000098	Quercetin	302.25	REFJWTPEDVJJIY-UHFFFAOYSA-N	C1=CC(=C(C=C1C2=C(C(=O)C3=C(C=C(C=C3O2)O)O)O)O)O
	Nirtetralin	430.50	LHQDZANQXMRHIV-LZJOCLMNSA-N	COCC1CC2=CC3=C(C(=C2C(C1COC)C4=CC(=C(C=C4)OC)OC)OC)OCO3
	Nirphyllin	448.50	RYZNPFYAGDHZDT-ROUUACIJSA-N	COCC(CC1=CC2=C(C(=C1)OC)OCO2)C(CC3=CC(=C(C(=C3)OC)O)OC)COC
	Cubebin dimethyl ether	386.40	NQFDLHKMNTXMAG-QZTJIDSGSA-N	COCC(CC1=CC2=C(C=C1)OCO2)C(CC3=CC4=C(C=C3)OCO4)COC
MOL010919	17-beta-estradiol	272.42	VOXZDWNPVJITMN-ZBRFXRBCSA-N	CC12CCC3C(C1CCC2O)CCC4=C3C=CC(=C4)O

MOL002005	Hinokinin	354.38	DDWGQGZPYDSYEL-LSDHHAIUSA-N	C1C(C(C(=O)O1)CC2=CC3=C(C=C2)OCO3)CC4=CC5=C(C=C4)OCO5
	Hypophyllanthin	430.50	LBJCUHLNHSKZBW-XGHQBKJUSA-N	COCC1CC2=CC(=C3C(=C2C(C1COC)C4=CC(=C(C=C4)OC)OC)OCO3)OC
	Isolintetralin	400.50	MMIPPOIFVHVHAK-JTUHZDRVSA-N	COCC1CC2=CC3=C(C=C2C(C1COC)C4=CC(=C(C=C4)OC)OC)OCO3
	Lintetralin	400.50	WBJMMHMEDGPCCD-JTUHZDRVSA-N	COCC1CC2=CC(=C(C=C2C(C1COC)C3=CC4=C(C=C3)OCO4)OC)OC

Norsecurinine	203.24	NBGOALXYAZVRPS-FOGDFJRCSA-N	C1CC2C34CC(N2C1)C=CC3=CC(=O)O4
Phyllnirurin	342.40	JJPULWMQUWTWAT-BUXKBTBVSA-N	CC1C(OC2=C1C=C(C=C2OC)CCCO)C3=CC4=C(C=C3)OCO4
Phyllochrysine	217.26	SWZMSZQQJRKFBP-UHFFFAOYSA-N	C1CCN2C(C1)C34CC2C=CC3=CC(=O)O4
Phyltetralin	416.50	CZZKSEXMNQGXJU-ROMRWMGNSA-N	COCC1CC2=CC(=C(C=C2C(C1COC)C3=CC(=C(C=C3)OC)OC)OC)OC

	Securinine	217.26	SWZMSZQQJRKFBP-WZRBSPASSA-N	C1CCN2C(C1)C34CC2C=CC3=CC(=O)O4
	Urinatetralin	384.40	XNZRAIUXPDCEOA-ZDPZECHZSA-N	COCC1CC2=CC3=C(C=C2C(C1COC)C4=CC5=C(C=C4)OCO5)OCO3
MOL000431	Coumarin	146.15	ZYGHJZDHTFUPRJ-UHFFFAOYSA-N	C1=CC=C2C(=C1)C=CC(=O)O2
MOL010246	Flavonol	238.25	HVQAJTFOCKOKIN-UHFFFAOYSA-N	C1=CC=C(C=C1)C2=C(C(=O)C3=CC=CC=C3O2)O
MOL001002	Ellagic acid	302.20	AFSDNFLWKVMVRB-UHFFFAOYSA-N	C1=C2C3=C(C(=C1O)O)OC(=O)C4=CC(=C(C(=C43)OC2=O)O)O

MOL002249	Gallocatechin	306.29	XMOCLSLCDHWDHP-SWLSCSKDSA-N	C1C(C(OC2=CC(=CC(=C21)O)O)C3=CC(=C(C(=C3)O)O)O)O
	Niruriflavone	364.30	VQFWNXWCQOHGRF-UHFFFAOYSA-N	COC1=CC=C(C=C1)C2=CC(=O)C3=C(O2)C=C(C(=C3O)S(=O)(=O)O)O
MOL000117	Cymol/p-cymene	134.24	HFPZCAJZSCWRBC-UHFFFAOYSA-N	CC1=CC=C(C=C1)C(C)C
MOL000513	3,4,5-trihydroxybenzoic acid/gallic acid	170.13	LNTHITQWFMADLM-UHFFFAOYSA-N	C1=C(C=C(C(=C1O)O)O)C(=O)O
MOL006179	2-(6-carboxy-2,3,4-trihydroxyphenyl)-3,4,5-trihydroxybenzoic acid/HHDP/Hexahydroxyldiphenoyl	338.24	MFTSECOLKFLUSD-UHFFFAOYSA-N	C1=C(C(=C(C(=C1O)O)O)C2=C(C(=C(C=C2C(=O)O)O)O)O)C(=O)O

	Methyl brevifolincarboxylate	306.22	JNWDNAASYHRXMG-UHFFFAOYSA-N	COC(=O)C1CC(=O)C2=C1C3=C(C(=C(C=C3C(=O)O2)O)O)O
	Niranthin	432.50	RCFGIEPQSDGMJJ-OALUTQOASA-N	COCC(CC1=CC(=C(C=C1)OC)OC)C(CC2=CC3=C(C(=C2)OC)OCO3)COC
MOL000546	Diosgenin	414.69	WQLVFSAGQJTQCK-VKROHFNGSA-N	CC1CCC2(C(C3C(O2)CC4C3(CCC5C4CC=C6C5(CCC(C6)O)C)C)C)OC1
	Phyllanthine	247.29	YKLWRYOORWTCQQ-ZXRVKKJVSA-N	COC1CCN2C(C1)C34CC2C=CC3=CC(=O)O4
MOL006832	beta-Glucogallin	332.29	GDVRUDXLQBVIKP-HQHREHCSSA-N	C1=C(C=C(C(=C1O)O)O)C(=O)OC2C(C(C(C(O2)CO)O)O)O

	Triacontanal	436.80	CGNVIRPGBUXJES-UHFFFAOYSA-N	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCC=O
MOL000492	(+)-catechin	290.29	PFTAWBLQPZVEMU-DZGCQCFKSA-N	C1C(C(OC2=CC(=CC(=C21)O)O)C3=CC(=C(C=C3)O)O)O
MOL000358	beta-Sitosterol	414.79	KZJWDPNRJALLNS-VJSFXXLFSA-N	CCC(CCC(C)C1CCC2C1(CCC3C2CC=C4C3(CCC(C4)O)C)C)C(C)C
	Kaempferol 4'-rhamnoside	432.40	KTZDZZQLJUYTES-BBIYZJLNSA-N	CC1C(C(C(C(C(O1)OC2=CC=C(C=C2)C3=C(C(=O)C4=C(C=C(C=C4O3)O)O)O)O)O)O)O
MOL012430	Eriodictin	434.43	JMVXRLMOIOTWSB-PFZAOBAISA-N	CC1C(C(C(C(C(O1)OC2=CC(=C3C(=O)CC(OC3=C2)C4=CC(=C(C=C4)O)O)O)O)O)O)O)O

4-Methoxynorsecurinine	233.26	WTUGFBFFNZHNEK-HWCLQQTBSA-N	COC1CC2C34CC(N2C1)C=CC3=CC(=O)O4
4-sinapoylquinic acid	398.40	WKRKXTOYTASIOP-YPUOWVPESA-N	COC1=CC(=CC(=C1O)OC)C=CC(=O)OC2C(CC(CC2O)(C(=O)O)O)O
7-hydroxysecoisolariciresinol	378.40	VPDBTIFHPUYJJJ-HGUAOMBGSA-N	COC1=C(C=CC(=C1)CC(CO)C(CO)C(C2=CC(=C(C=C2)O)OC)O)O
8,5'-diferulic acid/(+)-Dca-CC	386.40	JTHPLBUVRLOJBB-KCILRPRFSA-N	COC1=CC(=CC2=C1OC(C2C(=O)O)C3=CC(=C(C=C3)O)OC)C=CC(=O)O
Caffeic acid 3-sulfate	260.22	VWQNTRNACRFUCQ-DUXPYHPUSA-N	C1=CC(=C(C=C1C=CC(=O)O)OS(=O)(=O)O)O

Supplementary Table S3a. Bioactive components o
Organism: *Homo sapiens* (humaı

Molecule Name	Mol ID	PubChem CID	Uniprot ID	Target Key
Lupeol	MOL000356	259846	P18031	PTN1_HUMAN
Lupeol	MOL000356	259846	Q8TDU6	GPBAR_HUMAN
Lupeol	MOL000356	259846	Q04206	TF65_HUMAN
Lupeol	MOL000356	259846	O60218	AK1BA_HUMAN
Lupeol	MOL000356	259846	P13726	TF_HUMAN
Methyl salicylate	MOL000719	4133	Q9ULX7	CAH14_HUMAN
Methyl salicylate	MOL000719	4133	P43166	CAH7_HUMAN
Methyl salicylate	MOL000719	4133	Q16790	CAH9_HUMAN
Methyl salicylate	MOL000719	4133	O43570	CAH12_HUMAN
Methyl salicylate	MOL000719	4133	P00915	CAH1_HUMAN
Methyl salicylate	MOL000719	4133	Q15788	NCOA1_HUMAN
Methyl salicylate	MOL000719	4133	P00918	CAH2_HUMAN
Methyl salicylate	MOL000719	4133	P05164	PERM_HUMAN
Methyl salicylate	MOL000719	4133	P53779	MK10_HUMAN
Methyl salicylate	MOL000719	4133	Q9NPH5	NOX4_HUMAN

Methyl salicylate	MOL000719	4133	Q9Y6Q9	NCOA3_HUMAN
Phyllanthin	MOL006812	358901	P16050	LOX15_HUMAN
Quercetin	MOL000098	5280343	Q14576	LAV3_HUMA
Quercetin	MOL000098	5280343	Q16678	P1B1_HUMA
Quercetin	MOL000098	5280343	P47989	KDH_HUMAN
Quercetin	MOL000098	5280343	Q9NPH5	IOX4_HUMA
Quercetin	MOL000098	5280343	Q04760	GUL_HUMA
Quercetin	MOL000098	5280343	P10632	P2C8_HUMA
Quercetin	MOL000098	5280343	P53355	APK1_HUMA
Quercetin	MOL000098	5280343	Q9HC98	NEK6_HUMA
Quercetin	MOL000098	5280343	P09917	LOX5_HUMA
Quercetin	MOL000098	5280343	Q15717	LAV1_HUMA
Quercetin	MOL000098	5280343	Q9UNQ0	BCG2_HUMA
Quercetin	MOL000098	5280343	P22748	CAH4_HUMA
Quercetin	MOL000098	5280343	P51679	CCR4_HUMA
Quercetin	MOL000098	5280343	P33527	MRP1_HUMA
Quercetin	MOL000098	5280343	Q16512	PKN1_HUMA
Quercetin	MOL000098	5280343	P21397	AOFA_HUMA
Quercetin	MOL000098	5280343	P43166	CAH7_HUMA
Quercetin	MOL000098	5280343	O60285	JAK1_HUMA
Quercetin	MOL000098	5280343	P18054	CX12_HUMA
Quercetin	MOL000098	5280343	P04798	P1A1_HUMA
Quercetin	MOL000098	5280343	P15121	ALDR_HUMA
Quercetin	MOL000098	5280343	Q9HC97	PR35_HUMA
Quercetin	MOL000098	5280343	P07451	CAH3_HUMA
Quercetin	MOL000098	5280343	P16050	CX15_HUMA

Quercetin	MOL000098	5280343	P05164	ERM_HUMA
Quercetin	MOL000098	5280343	P37059	HB2_HUMA
Quercetin	MOL000098	5280343	P05067	A4_HUMAN
Quercetin	MOL000098	5280343	O43570	AH12_HUMA
Quercetin	MOL000098	5280343	P04054	A21B_HUMA
Quercetin	MOL000098	5280343	Q13554	CC2B_HUMA
Quercetin	MOL000098	5280343	P23280	AH6_HUMA
Quercetin	MOL000098	5280343	P35218	AH5A_HUMA
Quercetin	MOL000098	5280343	P25024	XCR1_HUMA
Quercetin	MOL000098	5280343	P30530	JFO_HUMAN
Quercetin	MOL000098	5280343	P51955	IEK2_HUMA
Quercetin	MOL000098	5280343	P06493	DK1_HUMA
Quercetin	MOL000098	5280343	P68400	SK21_HUMA
Quercetin	MOL000098	5280343	P36888	LT3_HUMAN
Quercetin	MOL000098	5280343	P06737	YGL_HUMA
Quercetin	MOL000098	5280343	Q9ULX7	AH14_HUMA
Quercetin	MOL000098	5280343	P30518	V2R_HUMAN
Quercetin	MOL000098	5280343	P00918	AH2_HUMA
Quercetin	MOL000098	5280343	P05177	P1A2_HUMA
Quercetin	MOL000098	5280343	P14780	IMP9_HUMA
Quercetin	MOL000098	5280343	Q96GD4	JRKB_HUMA
Quercetin	MOL000098	5280343	P49841	SK3B_HUMA
Quercetin	MOL000098	5280343	P56817	ACE1_HUMA
Quercetin	MOL000098	5280343	P27986	85A_HUMAN
Quercetin	MOL000098	5280343	Q16790	AH9_HUMA
Quercetin	MOL000098	5280343	Q9UM73	ALK_HUMAN
Quercetin	MOL000098	5280343	P27487	DPP4_HUMAN
Quercetin	MOL000098	5280343	P11309	PIM1_HUMAN
Quercetin	MOL000098	5280343	Q05397	AK1_HUMA

Quercetin	MOL000098	5280343	P11712	P2C9_HUMA
Quercetin	MOL000098	5280343	P31749	AKT1_HUMAI
Quercetin	MOL000098	5280343	P08254	IMP3_HUMA
Quercetin	MOL000098	5280343	P08069	GF1R_HUMA
Quercetin	MOL000098	5280343	P08253	IMP2_HUMA
Quercetin	MOL000098	5280343	P08581	MET_HUMAN
Quercetin	MOL000098	5280343	P21917	DRD4_HUMA
Quercetin	MOL000098	5280343	P45452	MP13_HUMA
Quercetin	MOL000098	5280343	P15056	BRAF_HUMA
Quercetin	MOL000098	5280343	P00533	EGFR_HUMA
Quercetin	MOL000098	5280343	P00915	CAH1_HUMA
Quercetin	MOL000098	5280343	P00734	THRB_HUMA
Quercetin	MOL000098	5280343	P35968	VGFR2_HUMA
Quercetin	MOL000098	5280343	Q13332	PTPRS_HUMA
Quercetin	MOL000098	5280343	P07237	PDIA1_HUMA
Quercetin	MOL000098	5280343	P29372	MMG_HUMAN
Quercetin	MOL000098	5280343	P15907	HAT1_HUMA
Quercetin	MOL000098	5280343	P08183	MDR1_HUMA
Quercetin	MOL000098	5280343	B2RXH2	KCM4E_HUMA
Quercetin	MOL000098	5280343	P09923	DPBI_HUMAN
Quercetin	MOL000098	5280343	P10636	TAU_HUMAN
Quercetin	MOL000098	5280343	P02766	TTHY_HUMA
Quercetin	MOL000098	5280343	O60218	AK1BA_HUMA
Quercetin	MOL000098	5280343	Q15746	MYLK_HUMA
Quercetin	MOL000098	5280343	P11511	CP19A_HUMA
Quercetin	MOL000098	5280343	P30542	AA1R_HUMA
Quercetin	MOL000098	5280343	P29274	AA2AR_HUMA
Quercetin	MOL000098	5280343	P12931	SRC_HUMAN
Quercetin	MOL000098	5280343	P53350	PLK1_HUMA
Quercetin	MOL000098	5280343	P52895	AK1C2_HUMA
Quercetin	MOL000098	5280343	Q04828	AK1C1_HUMA

Quercetin	MOL000098	5280343	P42330	K1C3_HUMA
Quercetin	MOL000098	5280343	P17516	K1C4_HUMA
Quercetin	MOL000098	5280343	Q8N1Q1	AH13_HUMA
Quercetin	MOL000098	5280343	P14550	K1A1_HUMA
Quercetin	MOL000098	5280343	P11388	ЭP2A_HUMA
Quercetin	MOL000098	5280343	P06213	NSR_HUMAN
Quercetin	MOL000098	5280343	P22303	ACES_HUMAN
Quercetin	MOL000098	5280343	P43405	SYK_HUMA
Quercetin	MOL000098	5280343	P48736	K3CG_HUMA
Quercetin	MOL000098	5280343	P27695	PEX1_HUMA
Quercetin	MOL000098	5280343	Q92731	ESR2_HUMAN
Quercetin	MOL000098	5280343	Q96S37	22AC_HUMA
Quercetin	MOL000098	5280343	Q15078	D5R1_HUMA
Quercetin	MOL000098	5280343	Q00535	CDK5_HUMA
Quercetin	MOL000098	5280343	Q8WWL7	CNB3_HUMA
Quercetin	MOL000098	5280343	P14635	CNB1_HUMA
Quercetin	MOL000098	5280343	O95067	CNB2_HUMA
Quercetin	MOL000098	5280343	P05089	RGI1_HUMA
17-beta-estradiol	MOL010919	5757	P03372	ESR1_HUMAN
17-beta-estradiol	MOL010919	5757	Q92731	ESR2_HUMAN
17-beta-estradiol	MOL010919	5757	P04278	SHBG_HUMAN
17-beta-estradiol	MOL010919	5757	P10275	ANDR_HUMAN
17-beta-estradiol	MOL010919	5757	P11511	CP19A_HUMAN
17-beta-estradiol	MOL010919	5757	P31645	SC6A4_HUMAN

17-beta-estradiol	MOL010919	5757	P11474	ERR1_HUMAN
17-beta-estradiol	MOL010919	5757	O95718	ERR2_HUMAN
17-beta-estradiol	MOL010919	5757	Q99527	GPER1_HUMAN
17-beta-estradiol	MOL010919	5757	P08185	CBG_HUMAN
17-beta-estradiol	MOL010919	5757	Q99527	GPER1_HUMAN
17-beta-estradiol	MOL010919	5757	O75751	S22A3_HUMAN
17-beta-estradiol	MOL010919	5757	O15245	S22A1_HUMAN
17-beta-estradiol	MOL010919	5757	Q16678	CP1B1_HUMAN
17-beta-estradiol	MOL010919	5757	P08842	STS_HUMAN
17-beta-estradiol	MOL010919	5757	P14061	DHB1_HUMAN
17-beta-estradiol	MOL010919	5757	Q96PN6	ADCYA_HUMAN
17-beta-estradiol	MOL010919	5757	P42330	AK1C3_HUMAN
17-beta-estradiol	MOL010919	5757	Q9Y6L6	SO1B1_HUMAN
17-beta-estradiol	MOL010919	5757	O15439	MRP4_HUMAN
17-beta-estradiol	MOL010919	5757	P33527	MRP1_HUMAN

17-beta-estradiol	MOL010919	5757	P18405	S5A1_HUMAN
17-beta-estradiol	MOL010919	5757	P31213	S5A2_HUMAN
Hinokinin	MOL002005	442879	P23975	SC6A2_HUMAN
Hinokinin	MOL002005	442879	Q01959	SC6A3_HUMAN
Coumarin	MOL000431	323	P00918	CAH2_HUMAN
Coumarin	MOL000431	323	P43166	CAH7_HUMAN
Coumarin	MOL000431	323	P00915	CAH1_HUMAN
Coumarin	MOL000431	323	P07451	CAH3_HUMAN
Coumarin	MOL000431	323	P23280	CAH6_HUMAN
Coumarin	MOL000431	323	O43570	CAH12_HUMAN
Coumarin	MOL000431	323	Q9ULX7	CAH14_HUMAN
Coumarin	MOL000431	323	Q16790	CAH9_HUMAN
Coumarin	MOL000431	323	P22748	CAH4_HUMAN
Coumarin	MOL000431	323	Q8N1Q1	CAH13_HUMAN
Coumarin	MOL000431	323	Q9Y2D0	CAH5B_HUMAN

Coumarin	MOL000431	323	P35218	CAH5A_HUMAN
Coumarin	MOL000431	323	P06401	PRGR_HUMAN
Coumarin	MOL000431	323	P21917	DRD4_HUMAN
Flavonol	MOL010246	11349	P00918	CAH2_HUMAN
Flavonol	MOL010246	11349	P00915	CAH1_HUMAN
Flavonol	MOL010246	11349	O43570	CAH12_HUMAN
Flavonol	MOL010246	11349	Q16790	CAH9_HUMAN
Flavonol	MOL010246	11349	Q16678	CP1B1_HUMAN
Flavonol	MOL010246	11349	P08183	MDR1_HUMAN
Flavonol	MOL010246	11349	P15559	NQO1_HUMAN
Flavonol	MOL010246	11349	P15907	SIAT1_HUMAN
Flavonol	MOL010246	11349	Q9UNQ0	ABCG2_HUMAN
Flavonol	MOL010246	11349	P21397	AOFA_HUMAN
Flavonol	MOL010246	11349	P47989	XDH_HUMAN
Flavonol	MOL010246	11349	P27338	AOFB_HUMAN

Ellagic acid	MOL001002	5281855	Q9HC97	GPR35_HUMAN
Ellagic acid	MOL001002	5281855	P04626	ERBB2_HUMAN
Ellagic acid	MOL001002	5281855	P15121	ALDR_HUMAN
Ellagic acid	MOL001002	5281855	P24385	CCND1_HUMAN
Ellagic acid	MOL001002	5281855	P11802	CDK4_HUMAN
Ellagic acid	MOL001002	5281855	P09619	PGFRB_HUMAN
Ellagic acid	MOL001002	5281855	P35916	VGFR3_HUMAN
Ellagic acid	MOL001002	5281855	P08069	IGF1R_HUMAN
Ellagic acid	MOL001002	5281855	P06213	INSR_HUMAN
Ellagic acid	MOL001002	5281855	P00533	EGFR_HUMAN
Ellagic acid	MOL001002	5281855	P00918	CAH2_HUMAN
Ellagic acid	MOL001002	5281855	P24941	CDK2_HUMAN
Ellagic acid	MOL001002	5281855	P78396	CCNA1_HUMAN
Ellagic acid	MOL001002	5281855	P20248	CCNA2_HUMAN
Ellagic acid	MOL001002	5281855	Q96GD4	AURKB_HUMAN

Ellagic acid	MOL001002	5281855	P43166	CAH7_HUMAN
Ellagic acid	MOL001002	5281855	P00915	CAH1_HUMAN
Ellagic acid	MOL001002	5281855	P49841	GSK3B_HUMAN
Ellagic acid	MOL001002	5281855	P12931	SRC_HUMAN
Ellagic acid	MOL001002	5281855	Q05397	FAK1_HUMAN
Ellagic acid	MOL001002	5281855	P35968	VGFR2_HUMAN
Ellagic acid	MOL001002	5281855	P53350	PLK1_HUMAN
Ellagic acid	MOL001002	5281855	P23280	CAH6_HUMAN
Ellagic acid	MOL001002	5281855	O43570	CAH12_HUMAN
Ellagic acid	MOL001002	5281855	Q9ULX7	CAH14_HUMAN
Ellagic acid	MOL001002	5281855	Q16790	CAH9_HUMAN
Ellagic acid	MOL001002	5281855	P68400	CSK21_HUMAN
Ellagic acid	MOL001002	5281855	P08581	MET_HUMAN
Ellagic acid	MOL001002	5281855	P22748	CAH4_HUMAN
Ellagic acid	MOL001002	5281855	O00444	PLK4_HUMAN

Ellagic acid	MOL001002	5281855	Q8N1Q1	CAH13_HUMAN
Ellagic acid	MOL001002	5281855	Q02763	TIE2_HUMAN
Ellagic acid	MOL001002	5281855	P31749	AKT1_HUMAN
Ellagic acid	MOL001002	5281855	O14965	AURKA_HUMAN
Ellagic acid	MOL001002	5281855	P35218	CAH5A_HUMAN
Ellagic acid	MOL001002	5281855	P56817	BACE1_HUMAN
Ellagic acid	MOL001002	5281855	P41279	M3K8_HUMAN
Ellagic acid	MOL001002	5281855	P15056	BRAF_HUMAN
Ellagic acid	MOL001002	5281855	P54760	EPHB4_HUMAN
Ellagic acid	MOL001002	5281855	P0DMV8	HS71A_HUMAN
Ellagic acid	MOL001002	5281855	O60285	NUAK1_HUMAN
Ellagic acid	MOL001002	5281855	Q14534	ERG1_HUMAN
Ellagic acid	MOL001002	5281855	P09769	FGR_HUMAN
Ellagic acid	MOL001002	5281855	P07948	LYN_HUMAN
Ellagic acid	MOL001002	5281855	Q9UNA4	POLI_HUMAN

Ellagic acid	MOL001002	5281855	Q14576	ELAV3_HUMAN
Ellagic acid	MOL001002	5281855	Q9Y253	POLH_HUMAN
Ellagic acid	MOL001002	5281855	P84022	SMAD3_HUMAN
Ellagic acid	MOL001002	5281855	Q4U2R8	S22A6_HUMAN
Ellagic acid	MOL001002	5281855	Q9Y4P1	ATG4B_HUMAN
Ellagic acid	MOL001002	5281855	P14174	MIF_HUMAN
Ellagic acid	MOL001002	5281855	P63316	TNNC1_HUMAN
Ellagic acid	MOL001002	5281855	P19429	TNNI3_HUMAN
Ellagic acid	MOL001002	5281855	P45379	TNNT2_HUMAN
Ellagic acid	MOL001002	5281855	P27695	APEX1_HUMAN
Gallocatechin	MOL002249	65084	P56817	BACE1_HUMAN
Gallocatechin	MOL002249	65084	P22083	FUT4_HUMAN
Gallocatechin	MOL002249	65084	P52209	6PGD_HUMAN
Gallocatechin	MOL002249	65084	Q11203	SIAT6_HUMAN
Gallocatechin	MOL002249	65084	Q14576	ELAV3_HUMAN

Gallocatechin	MOL002249	65084	P18669	PGAM1_HUMAN
Gallocatechin	MOL002249	65084	Q11130	FUT7_HUMAN
Gallocatechin	MOL002249	65084	P07451	CAH3_HUMAN
Niruriflavone	NA	11494293	P16220	CREB1_HUMAN
Niruriflavone	NA	11494293	Q13332	PTPRS_HUMAN
Niruriflavone	NA	11494293	Q16678	CP1B1_HUMAN
Niruriflavone	NA	11494293	P0DUB6	AMY1A_HUMAN
Niruriflavone	NA	11494293	Q9UK17	KCND3_HUMAN
Niruriflavone	NA	11494293	P47989	XDH_HUMAN
Niruriflavone	NA	11494293	Q9UNQ0	ABCG2_HUMAN
Niruriflavone	NA	11494293	P08183	MDR1_HUMAN
Niruriflavone	NA	11494293	P43250	GRK6_HUMAN
Niruriflavone	NA	11494293	P18054	LOX12_HUMAN
Niruriflavone	NA	11494293	P16050	LOX15_HUMAN
Niruriflavone	NA	11494293	Q13564	ULA1_HUMAN

Niruriflavone	NA	11494293	P27338	AOFB_HUMAN
Niruriflavone	NA	11494293	P21397	AOFA_HUMAN
Niruriflavone	NA	11494293	B2RXH2	KDM4E_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P00918	CAH2_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P43166	CAH7_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P00915	CAH1_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P07451	CAH3_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P23280	CAH6_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	O43570	CAH12_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	Q9ULX7	CAH14_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	Q16790	CAH9_HUMAN

3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	Q11130	FUT7_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P22748	CAH4_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	Q9Y2D0	CAH5B_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P35218	CAH5A_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	Q8N1Q1	CAH13_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P27487	DPP4_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P05121	PAI1_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P06746	DPOLB_HUMAN
3,4,5-trihydroxybenzoic acid/gallic acid	MOL000513	370	P09884	DPOLA_HUMAN
Diosgenin	MOL000546	99474	P05093	CP17A_HUMAN
Diosgenin	MOL000546	99474	Q15125	EBP_HUMAN

Diosgenin	MOL000546	99474	P60568	IL2_HUMAN
Diosgenin	MOL000546	99474	P11511	CP19A_HUMAN
beta-Glucogallin	MOL006832	124021	P15121	ALDR_HUMAN
beta-Glucogallin	MOL006832	124021	P0DUB6	AMY1A_HUMAN
beta-Glucogallin	MOL006832	124021	P05121	PAI1_HUMAN
Triacontanal	NA	3084375	P40394	ADH7_HUMAN
Triacontanal	NA	3084375	P00325	ADH1B_HUMAN
Triacontanal	NA	3084375	P07327	ADH1A_HUMAN
Triacontanal	NA	3084375	O00519	FAAH1_HUMAN
(+)-catechin	MOL000492	9064	P07451	CAH3_HUMAN
(+)-catechin	MOL000492	9064	P22748	CAH4_HUMAN
(+)-catechin	MOL000492	9064	Q9Y2D0	CAH5B_HUMAN
(+)-catechin	MOL000492	9064	P23280	CAH6_HUMAN
(+)-catechin	MOL000492	9064	P43166	CAH7_HUMAN
(+)-catechin	MOL000492	9064	P35218	CAH5A_HUMAN

(+)-catechin	MOL000492	9064	P05186	PPBT_HUMAN
(+)-catechin	MOL000492	9064	O43570	CAH12_HUMAN
(+)-catechin	MOL000492	9064	Q16790	CAH9_HUMAN
(+)-catechin	MOL000492	9064	P00915	CAH1_HUMAN
(+)-catechin	MOL000492	9064	P00918	CAH2_HUMAN
(+)-catechin	MOL000492	9064	P49763	PLGF_HUMAN
(+)-catechin	MOL000492	9064	P52209	6PGD_HUMAN
(+)-catechin	MOL000492	9064	Q14576	ELAV3_HUMAN
(+)-catechin	MOL000492	9064	P15692	VEGFA_HUMAN
beta-Sitosterol	MOL000358	222284	P04035	HMDH_HUMAN
beta-Sitosterol	MOL000358	222284	Q16850	CP51A_HUMAN
beta-Sitosterol	MOL000358	222284	P10275	ANDR_HUMAN
beta-Sitosterol	MOL000358	222284	Q9UHC9	NPCL1_HUMAN
beta-Sitosterol	MOL000358	222284	Q13133	NR1H3_HUMAN
beta-Sitosterol	MOL000358	222284	P05093	CP17A_HUMAN

beta-Sitosterol	MOL000358	222284	P00734	THRB_HUMAN
beta-Sitosterol	MOL000358	222284	Q15392	DHC24_HUMAN
beta-Sitosterol	MOL000358	222284	P02511	CRYAB_HUMAN
beta-Sitosterol	MOL000358	222284	P31213	S5A2_HUMAN
beta-Sitosterol	MOL000358	222284	P04278	SHBG_HUMAN
beta-Sitosterol	MOL000358	222284	P08185	CBG_HUMAN
beta-Sitosterol	MOL000358	222284	P09038	FGF2_HUMAN
beta-Sitosterol	MOL000358	222284	Q13133	NR1H3_HUMAN
beta-Sitosterol	MOL000358	222284	P11413	G6PD_HUMAN
beta-Sitosterol	MOL000358	222284	P09884	DPOLA_HUMAN
beta-Sitosterol	MOL000358	222284	P35398	RORA_HUMAN
beta-Sitosterol	MOL000358	222284	Q12772	SRBP2_HUMAN
beta-Sitosterol	MOL000358	222284	Q15375	EPHA7_HUMAN
beta-Sitosterol	MOL000358	222284	P54756	EPHA5_HUMAN
beta-Sitosterol	MOL000358	222284	P29322	EPHA8_HUMAN

beta-Sitosterol	MOL000358	222284	P54753	EPHB3_HUMAN
beta-Sitosterol	MOL000358	222284	P54764	EPHA4_HUMAN
beta-Sitosterol	MOL000358	222284	P21709	EPHA1_HUMAN
beta-Sitosterol	MOL000358	222284	P54762	EPHB1_HUMAN
beta-Sitosterol	MOL000358	222284	Q9UF33	EPHA6_HUMAN
beta-Sitosterol	MOL000358	222284	P29323	EPHB2_HUMAN
beta-Sitosterol	MOL000358	222284	P29317	EPHA2_HUMAN
beta-Sitosterol	MOL000358	222284	O15197	EPHB6_HUMAN
beta-Sitosterol	MOL000358	222284	P11511	CP19A_HUMAN
beta-Sitosterol	MOL000358	222284	P29320	EPHA3_HUMAN
beta-Sitosterol	MOL000358	222284	P55055	NR1H2_HUMAN
beta-Sitosterol	MOL000358	222284	P51449	RORG_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	Q14576	ELAV3_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P07237	PDIA1_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	Q16678	CP1B1_HUMAN

Kaempferol 4'-rhamnoside	NA	44258925	P47989	XDH_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	Q9GZQ4	NMUR2_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	Q9NPH5	NOX4_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P51812	KS6A3_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	Q04760	LGUL_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	Q9UNQ0	ABCG2_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P53355	DAPK1_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P10632	CP2C8_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P22748	CAH4_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	Q9HC98	NEK6_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P08183	MDR1_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P43166	CAH7_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	Q15717	ELAV1_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P09923	PPBI_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P15121	ALDR_HUMAN

Kaempferol 4'-rhamnoside	NA	44258925	P33527	MRP1_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P09917	LOX5_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	Q16512	PKN1_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	Q9HC97	GPR35_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	O60285	NUAK1_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P04798	CP1A1_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	B2RXH2	KDM4E_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	O43570	CAH12_HUMAN
Kaempferol 4'-rhamnoside	NA	44258925	P21397	AOFA_HUMAN
Eriodictin	MOL012430	101789466	P59538	T2R31_HUMAN
Eriodictin	MOL012430	101789466	Q16678	CP1B1_HUMAN
Eriodictin	MOL012430	101789466	P11511	CP19A_HUMAN
4-sinapoylquinic acid	NA	72193643	P05067	A4_HUMAN
4-sinapoylquinic acid	NA	72193643	O60218	AK1BA_HUMAN
7-hydroxysecoisolariciresinol	NA	44566585	P01100	FOS_HUMAN

7-hydroxysecoisolariciresinol	NA	44566585	P16050	LOX15_HUMAN
7-hydroxysecoisolariciresinol	NA	44566585	P02766	TTHY_HUMAN
7-hydroxysecoisolariciresinol	NA	44566585	P05412	JUN_HUMAN
8,5'-diferulic acid/(+)-Dca-CC	NA	10385446	P23280	CAH6_HUMAN
8,5'-diferulic acid/(+)-Dca-CC	NA	10385446	P35218	CAH5A_HUMAN
8,5'-diferulic acid/(+)-Dca-CC	NA	10385446	P43166	CAH7_HUMAN
8,5'-diferulic acid/(+)-Dca-CC	NA	10385446	P03372	ESR1_HUMAN
8,5'-diferulic acid/(+)-Dca-CC	NA	10385446	O14684	PTGES_HUMAN
8,5'-diferulic acid/(+)-Dca-CC	NA	10385446	Q9ULX7	CAH14_HUMAN
Caffeic acid 3-sulfate	NA	102261219	P05067	A4_HUMAN
Caffeic acid 3-sulfate	NA	102261219	P23280	CAH6_HUMAN
Caffeic acid 3-sulfate	NA	102261219	Q16236	NF2L2_HUMAN
Caffeic acid 3-sulfate	NA	102261219	P35218	CAH5A_HUMAN
Caffeic acid 3-sulfate	NA	102261219	Q9Y2D0	CAH5B_HUMAN

Caffeic acid 3-sulfate	NA	102261219	Q9ULX7	CAH14_HUMAN
Caffeic acid 3-sulfate	NA	102261219	P43166	CAH7_HUMAN
Caffeic acid 3-sulfate	NA	102261219	P07451	CAH3_HUMAN
Caffeic acid 3-sulfate	NA	102261219	P14780	MMP9_HUMAN
Caffeic acid 3-sulfate	NA	102261219	P03956	MMP1_HUMAN
Caffeic acid 3-sulfate	NA	102261219	P08253	MMP2_HUMAN
Caffeic acid 3-sulfate	NA	102261219	P09917	LOX5_HUMAN
Caffeic acid 3-sulfate	NA	102261219	O43570	CAH12_HUMAN
Caffeic acid 3-sulfate	NA	102261219	Q16790	CAH9_HUMAN

Supplementary Table S3b. Potential targets of bioactive components in *Phyllanthus niruri*
Organism: Homo sapiens (human)

Uniprot ID	Target Key	Target Name	Protein Name
B2RXH2	KDM4E_HUMAN	KDM4E	Lysine-specific demethylase 4E
O00444	PLK4_HUMAN	PLK4	Serine/threonine-protein kinase PLK4
O00519	FAAH1_HUMAN	FAAH	Fatty-acid amide hydrolase 1
O14684	PTGES_HUMAN	PTGES	Prostaglandin E synthase
O14965	AURKA_HUMAN	AURKA	Aurora kinase A
O15197	EPHB6_HUMAN	EPHB6	Ephrin type-B receptor 6
O15245	S22A1_HUMAN	SLC22A1	Solute carrier family 22 member 1

O15439	MRP4_HUMAN	ABCC4	ATP-binding cassette sub-family C member 4
O43570	CAH12_HUMAN	CA12	Carbonic anhydrase 12
O60218	AK1BA_HUMAN	AKR1B10	Aldo-keto reductase family 1 member B10
O60285	NUAK1_HUMAN	NUAK1	NUAK family SNF1-like kinase 1
O75751	S22A3_HUMAN	SLC22A3	Solute carrier family 22 member 3
O95067	CCNB2_HUMAN	CCNB2	G2/mitotic-specific cyclin-B2
O95718	ERR2_HUMAN	ESRRB	Steroid hormone receptor ERR2
P00325	ADH1B_HUMAN	ADH1B	All-trans-retinol dehydrogenase [NAD(+)] ADH1B
P00533	EGFR_HUMAN	EGFR	Epidermal growth factor receptor
P00734	THRB_HUMAN	F2	Prothrombin
P00915	CAH1_HUMAN	CA1	Carbonic anhydrase 1
P00918	CAH2_HUMAN	CA2	Carbonic anhydrase 2
P01100	FOS_HUMAN	FOS	Protein c-Fos
P02511	CRYAB_HUMAN	CRYAB	Alpha-crystallin B chain
P02766	TTHY_HUMAN	TTR	Transthyretin
P03372	ESR1_HUMAN	ESR1	Estrogen receptor
P03956	MMP1_HUMAN	MMP1	Interstitial collagenase
P04035	HMDH_HUMAN	HMGCR	3-hydroxy-3-methylglutaryl-coenzyme A reductase
P04054	PA21B_HUMAN	PLA2G1B	Phospholipase A2
P04278	SHBG_HUMAN	SHBG	Sex hormone-binding globulin
P04626	ERBB2_HUMAN	ERBB2	Receptor tyrosine-protein kinase erbB-2
P04798	CP1A1_HUMAN	CYP1A1	Cytochrome P450 1A1
P05067	A4_HUMAN	APP	Amyloid-beta precursor protein
P05089	ARGI1_HUMAN	ARG1	Arginase-1
P05093	CP17A_HUMAN	CYP17A1	Steroid 17-alpha-hydroxylase/17,20 lyase
P05121	PAI1_HUMAN	SERPINE1	Plasminogen activator inhibitor 1
P05164	PERM_HUMAN	MPO	Myeloperoxidase
P05177	CP1A2_HUMAN	CYP1A2	Cytochrome P450 1A2
P05186	PPBT_HUMAN	ALPL	Alkaline phosphatase, tissue-nonspecific isozyme
P05412	JUN_HUMAN	JUN	Transcription factor Jun

P06213	INSR_HUMAN	INSR	Insulin receptor
P06401	PRGR_HUMAN	PGR	Progesterone receptor
P06493	CDK1_HUMAN	CDK1	Cyclin-dependent kinase 1
P06737	PYGL_HUMAN	PYGL	Glycogen phosphorylase, liver form
P06746	DPOLB_HUMAN	POLB	DNA polymerase beta
P07237	PDIA1_HUMAN	P4HB	Protein disulfide-isomerase
P07327	ADH1A_HUMAN	ADH1A	Alcohol dehydrogenase 1A
P07451	CAH3_HUMAN	CA3	Carbonic anhydrase 3
P07948	LYN_HUMAN	LYN	Tyrosine-protein kinase Lyn
P08069	IGF1R_HUMAN	IGF1R	Insulin-like growth factor 1 receptor
P08183	MDR1_HUMAN	ABCB1	ATP-dependent translocase ABCB1
P08185	CBG_HUMAN	SERPINA6	Corticosteroid-binding globulin
P08253	MMP2_HUMAN	MMP2	72 kDa type IV collagenase
P08254	MMP3_HUMAN	MMP3	Stromelysin-1
P08581	MET_HUMAN	MET	Hepatocyte growth factor receptor
P08842	STS_HUMAN	STS	Steryl-sulfatase
P09038	FGF2_HUMAN	FGF2	Fibroblast growth factor 2
P09619	PGFRB_HUMAN	PDGFRB	Platelet-derived growth factor receptor beta
P09769	FGR_HUMAN	FGR	Tyrosine-protein kinase Fgr
P09884	DPOLA_HUMAN	POLA1	DNA polymerase alpha catalytic subunit
P09917	LOX5_HUMAN	ALOX5	Polyunsaturated fatty acid 5-lipoxygenase
P09923	PPBI_HUMAN	ALPI	Intestinal-type alkaline phosphatase
P0DMV8	HS71A_HUMAN	HSPA1A	Heat shock 70 kDa protein 1A
P0DUB6	AMY1A_HUMAN	AMY1A	Alpha-amylase 1A
P10275	ANDR_HUMAN	AR	Androgen receptor
P10632	CP2C8_HUMAN	CYP2C8	Cytochrome P450 2C8
P10636	TAU_HUMAN	MAPT	Microtubule-associated protein tau
P11309	PIM1_HUMAN	PIM1	Serine/threonine-protein kinase pim-1
P11388	TOP2A_HUMAN	TOP2A	DNA topoisomerase 2-alpha
P11413	G6PD_HUMAN	G6PD	Glucose-6-phosphate 1-dehydrogenase
P11474	ERR1_HUMAN	ESRRA	Steroid hormone receptor ERR1

P11511	CP19A_HUMAN	CYP19A1	Aromatase
P11712	CP2C9_HUMAN	CYP2C9	Cytochrome P450 2C9
P11802	CDK4_HUMAN	CDK4	Cyclin-dependent kinase 4
P12931	SRC_HUMAN	SRC	Proto-oncogene tyrosine-protein kinase Src
P13726	TF_HUMAN	F3	Tissue factor
P14061	DHB1_HUMAN	HSD17B1	17-beta-hydroxysteroid dehydrogenase type 1
P14174	MIF_HUMAN	MIF	Macrophage migration inhibitory factor
P14550	AK1A1_HUMAN	AKR1A1	Aldehyde reductase
P14635	CCNB1_HUMAN	CCNB1	G2/mitotic-specific cyclin-B1
P14780	MMP9_HUMAN	MMP9	Matrix metalloproteinase-9
P15056	BRAF_HUMAN	BRAF	Serine/threonine-protein kinase B-raf
P15121	ALDR_HUMAN	AKR1B1	Aldo-keto reductase family 1 member B1
P15559	NQO1_HUMAN	NQO1	NAD(P)H dehydrogenase [quinone] 1
P15692	VEGFA_HUMAN	VEGFA	Vascular endothelial growth factor A
P15907	SIAT1_HUMAN	ST6GAL1	Beta-galactoside alpha-2,6-sialyltransferase 1
P16050	LOX15_HUMAN	ALOX15	Polyunsaturated fatty acid lipoxygenase ALOX15
P16220	CREB1_HUMAN	CREB1	Cyclic AMP-responsive element-binding protein 1
P17516	AK1C4_HUMAN	AKR1C4	Aldo-keto-reductase family 1 member C4
P18031	PTN1_HUMAN	PTPN1	Tyrosine-protein phosphatase non-receptor type 1
P18054	LOX12_HUMAN	ALOX12	Polyunsaturated fatty acid lipoxygenase ALOX12
P18405	S5A1_HUMAN	SRD5A1	3-oxo-5-alpha-steroid 4-dehydrogenase 1
P18669	PGAM1_HUMAN	PGAM1	Phosphoglycerate mutase 1
P19429	TNNI3_HUMAN	TNNI3	Troponin I, cardiac muscle
P20248	CCNA2_HUMAN	CCNA2	Cyclin-A2
P21397	AOFA_HUMAN	MAOA	Amine oxidase [flavin-containing] A
P21709	EPHA1_HUMAN	EPHA1	Ephrin type-A receptor 1
P21917	DRD4_HUMAN	DRD4	D(4) dopamine receptor
P22083	FUT4_HUMAN	FUT4	Alpha-(1,3)-fucosyltransferase 4
P22303	ACES_HUMAN	ACHE	Acetylcholinesterase
P22748	CAH4_HUMAN	CA4	Carbonic anhydrase 4
P23280	CAH6_HUMAN	CA6	Carbonic anhydrase 6

P23975	SC6A2_HUMAN	SLC6A2	Sodium-dependent noradrenaline transporter
P24385	CCND1_HUMAN	CCND1	G1/S-specific cyclin-D1
P24941	CDK2_HUMAN	CDK2	Cyclin-dependent kinase 2
P25024	CXCR1_HUMAN	CXCR1	C-X-C chemokine receptor type 1
P27338	AOFB_HUMAN	MAOB	Amine oxidase [flavin-containing] B
P27487	DPP4_HUMAN	DPP4	Dipeptidyl peptidase 4
P27695	APEX1_HUMAN	APEX1	DNA-(apurinic or apyrimidinic site) endonuclease
P27986	P85A_HUMAN	PIK3R1	Phosphatidylinositol 3-kinase regulatory subunit alpha
P29274	AA2AR_HUMAN	ADORA2A	Adenosine A2a receptor
P29317	EPHA2_HUMAN	EPHA2	Ephrin type-A receptor 2
P29320	EPHA3_HUMAN	EPHA3	Ephrin type-A receptor 3
P29322	EPHA8_HUMAN	EPHA8	Ephrin type-A receptor 8
P29323	EPHB2_HUMAN	EPHB2	Ephrin type-B receptor 2
P29372	3MG_HUMAN	MPG	DNA-3-methyladenine glycosylase
P30518	V2R_HUMAN	AVPR2	Vasopressin V2 receptor
P30530	UFO_HUMAN	AXL	Tyrosine-protein kinase receptor UFO
P30542	AA1R_HUMAN	ADORA1	Adenosine A1 receptor
P31213	S5A2_HUMAN	SRD5A2	3-oxo-5-alpha-steroid 4-dehydrogenase 2
P31645	SC6A4_HUMAN	SLC6A4	Sodium-dependent serotonin transporter
P31749	AKT1_HUMAN	AKT1	RAC-alpha serine/threonine-protein kinase
P33527	MRP1_HUMAN	ABCC1	Multidrug resistance-associated protein 1
P35218	CAH5A_HUMAN	CA5A	Carbonic anhydrase 5A, mitochondrial
P35398	RORA_HUMAN	RORA	Nuclear receptor ROR-alpha
P35916	VGFR3_HUMAN	FLT4	Vascular endothelial growth factor receptor 3
P35968	VGFR2_HUMAN	KDR	Vascular endothelial growth factor receptor 2
P36888	FLT3_HUMAN	FLT3	Receptor-type tyrosine-protein kinase FLT3
P37059	DHB2_HUMAN	HSD17B2	Estradiol 17-beta-dehydrogenase 2
P40394	ADH7_HUMAN	ADH7	All-trans-retinol dehydrogenase [NAD(+)] ADH7
P41279	M3K8_HUMAN	MAP3K8	Mitogen-activated protein kinase kinase kinase 8
P42330	AK1C3_HUMAN	AKR1C3	Aldo-keto-reductase family 1 member C3

P43166	CAH7_HUMAN	CA7	Carbonic anhydrase 7
P43250	GRK6_HUMAN	GRK6	G protein-coupled receptor kinase 6
P43405	KSYK_HUMAN	SYK	Tyrosine-protein kinase SYK
P45379	TNNT2_HUMAN	TNNT2	Troponin T, cardiac muscle
P45452	MMP13_HUMAN	MMP13	Collagenase 3
P47989	XDH_HUMAN	XDH	Xanthine dehydrogenase/oxidase
P48736	PK3CG_HUMAN	PIK3CG	PI3-kinase p110-gamma subunit
P49763	PLGF_HUMAN	PGF	Placenta growth factor
P49841	GSK3B_HUMAN	GSK3B	Glycogen synthase kinase-3 beta
P51449	RORG_HUMAN	RORC	Nuclear receptor ROR-gamma
P51679	CCR4_HUMAN	CCR4	C-C chemokine receptor type 4
P51812	KS6A3_HUMAN	RPS6KA3	Ribosomal protein S6 kinase alpha-3
P51955	NEK2_HUMAN	NEK2	Serine/threonine-protein kinase Nek2
P52209	6PGD_HUMAN	PGD	6-phosphogluconate dehydrogenase, decarboxylating
P52895	AK1C2_HUMAN	AKR1C2	Aldo-keto reductase family 1 member C2
P53350	PLK1_HUMAN	PLK1	Serine/threonineprotein kinase PLK1
P53355	DAPK1_HUMAN	DAPK1	Death-associated protein kinase 1
P53779	MK10_HUMAN	MAPK10	Mitogen-activated protein kinase 10
P54753	EPHB3_HUMAN	EPHB3	Ephrin type-B receptor 3
P54756	EPHA5_HUMAN	EPHA5	Ephrin type-A receptor 5
P54760	EPHB4_HUMAN	EPHB4	Ephrin type-B receptor 4
P54762	EPHB1_HUMAN	EPHB1	Ephrin type-B receptor 1
P54764	EPHA4_HUMAN	EPHA4	Ephrin type-A receptor 4
P55055	NR1H2_HUMAN	NR1H2	Oxysterols receptor LXR-beta
P56817	BACE1_HUMAN	BACE1	Beta-secretase 1
P59538	T2R31_HUMAN	TAS2R31	Taste receptor type 2 member 31
P60568	IL2_HUMAN	IL2	Interleukin-2
P63316	TNNC1_HUMAN	TNNC1	Troponin C, slow skeletal and cardiac muscles
P68400	CSK21_HUMAN	CSNK2A1	Casein kinase II subunit alpha
P78396	CCNA1_HUMAN	CCNA1	Cyclin-A1

P84022	SMAD3_HUMAN	SMAD3	Mothers against decapentaplegic homolog 3
Q00535	CDK5_HUMAN	CDK5	Cyclin-dependent-like kinase 5
Q01959	SC6A3_HUMAN	SLC6A3	Sodium-dependent dopamine transporter
Q02763	TIE2_HUMAN	TEK	Angiopoietin-1 receptor
Q04206	TF65_HUMAN	RELA	Transcription factor p65
Q04760	LGUL_HUMAN	GLO1	Lactoylglutathione lyase
Q04828	AK1C1_HUMAN	AKR1C1	Aldo-keto reductase family 1 member C1
Q05397	FAK1_HUMAN	PTK2	Focal adhesion kinase 1
Q11130	FUT7_HUMAN	FUT7	Alpha-(1,3)-fucosyltransferase 7
Q11203	SIAT6_HUMAN	ST3GAL3	CMP-N-acetylneuraminate-beta-1,4-galactoside alpha-2,3-sialyltransferase
Q12772	SRBP2_HUMAN	SREBF2	Sterol regulatory element-binding protein 2
Q13133	NR1H3_HUMAN	NR1H3	Oxysterols receptor LXR-alpha
Q13332	PTPRS_HUMAN	PTPRS	Receptor-type tyrosine-protein phosphatase S
Q13554	KCC2B_HUMAN	CAMK2B	Calcium/calmodulin-dependent protein kinase type II subunit beta
Q13564	ULA1_HUMAN	NAE1	NEDD8-activating enzyme E1 regulatory subunit
Q14534	ERG1_HUMAN	SQLE	Squalene monooxygenase
Q14576	ELAV3_HUMAN	ELAVL3	ELAV-like protein 3
Q15078	CD5R1_HUMAN	CDK5R1	Cyclin-dependent kinase 5 activator 1
Q15125	EBP_HUMAN	EBP	3-beta-hydroxysteroid-Delta(8),Delta(7)-isomerase
Q15375	EPHA7_HUMAN	EPHA7	Ephrin type-A receptor 7
Q15392	DHC24_HUMAN	DHCR24	Delta(24)-sterol reductase
Q15717	ELAV1_HUMAN	ELAVL1	ELAV-like protein 1
Q15746	MYLK_HUMAN	MYLK	Myosin light chain kinase, smooth muscle
Q15788	NCOA1_HUMAN	NCOA1	Nuclear receptor coactivator 1
Q16236	NF2L2_HUMAN	NFE2L2	Nuclear factor erythroid 2-related factor 2
Q16512	PKN1_HUMAN	PKN1	Serine/threonine-protein kinase N1
Q16678	CP1B1_HUMAN	CYP1B1	Cytochrome P450 1B1
Q16790	CAH9_HUMAN	CA9	Carbonic anhydrase 9

Q16850	CP51A_HUMAN	CYP51A1	Lanosterol 14-alpha demethylase
Q4U2R8	S22A6_HUMAN	SLC22A6	Solute carrier family 22 member 6
Q8N1Q1	CAH13_HUMAN	CA13	Carbonic anhydrase XIII
Q8TDU6	GPBAR_HUMAN	GPBAR1	G-protein coupled bile acid receptor 1
Q8WWL7	CCNB3_HUMAN	CCNB3	G2/mitotic-specific cyclin-B3
Q92731	ESR2_HUMAN	ESR2	Estrogen receptor beta
Q96GD4	AURKB_HUMAN	AURKB	Aurora kinase B
Q96PN6	ADCYA_HUMAN	ADCY10	Adenylate cyclase type 10
Q96S37	S22AC_HUMAN	SLC22A12	Solute carrier family 22 member 12
Q99527	GPER1_HUMAN	GPER1	G-protein coupled estrogen receptor 1
Q9GZQ4	NMUR2_HUMAN	NMUR2	Neuromedin-U receptor 2
Q9HC97	GPR35_HUMAN	GPR35	G-protein coupled receptor 35
Q9HC98	NEK6_HUMAN	NEK6	Serine/threonine-protein kinase Nek6
Q9NPH5	NOX4_HUMAN	NOX4	NADPH oxidase 4
Q9UF33	EPHA6_HUMAN	EPHA6	Ephrin type-A receptor 6
Q9UHC9	NPCL1_HUMAN	NPC1L1	NPC1-like intracellular cholesterol transporter 1
Q9UK17	KCND3_HUMAN	KCND3	Potassium voltage-gated channel subfamily D member 3
Q9ULX7	CAH14_HUMAN	CA14	Carbonic anhydrase 14
Q9UM73	ALK_HUMAN	ALK	ALK tyrosine kinase receptor
Q9UNA4	POLI_HUMAN	POLI	DNA polymerase iota
Q9UNQ0	ABCG2_HUMAN	ABCG2	Broad substrate specificity ATP-binding cassette transporter ABCG2
Q9Y253	POLH_HUMAN	POLH	DNA polymerase eta
Q9Y2D0	CAH5B_HUMAN	CA5B	Carbonic anhydrase 5B, mitochondrial
Q9Y4P1	ATG4B_HUMAN	ATG4B	Cysteine protease ATG4B
Q9Y6L6	SO1B1_HUMAN	SLCO1B1	Solute carrier organic anion transporter family member 1B1
Q9Y6Q9	NCOA3_HUMAN	NCOA3	Nuclear receptor coactivator 3

n hepatoprotective-related targets (status reviewed)

m: Homo sapiens (human)

Uniprot ID	Target Key	Target Name	Protein Name	Source
Q9NRA2	S17A5_HUMAN	SLC17A5	Sialin	GeneCards
P24298	ALAT1_HUMAN	GPT	Alanine aminotransferase 1	GeneCards
P09601	HMOX1_HUMAN	HMOX1	Heme oxygenase 1	GeneCards
P01375	TNFA_HUMAN	TNF	Tumor necrosis factor	GeneCards
P35228	NOS2_HUMAN	NOS2	Nitric oxide synthase, inducible	eCards; NCBI
P00441	SODC_HUMAN	SOD1	Superoxide dismutase [Cu-Zn]	GeneCards
P08236	BGLR_HUMAN	GUSB	Beta-glucuronidase	GeneCards
P04040	CATA_HUMAN	CAT	Catalase	GeneCards
P05181	CP2E1_HUMAN	CYP2E1	Cytochrome P450 2E1	eCards; NCBI
Q16236	NF2L2_HUMAN	NFE2L2	Nuclear factor erythroid 2-related factor 2	eCards; NCBI
P58004	SESN2_HUMAN	SESN2	Sestrin-2	eCards; NCBI
Q96EB6	SIR1_HUMAN	SIRT1	NAD-dependent protein deacetylase sirtuin-1	GeneCards
Q14994	NR1I3_HUMAN	NR1I3	Nuclear receptor subfamily 1 group I member 3	GeneCards
P19440	GGT1_HUMAN	GGT1	Glutathione hydrolase 1 proenzyme	GeneCards
Q9GZX6	IL22_HUMAN	IL22	Interleukin-22	GeneCards
P05187	PPB1_HUMAN	ALPP	Alkaline phosphatase, placental type	GeneCards
P07858	CATB_HUMAN	CTSB	Cathepsin B	GeneCards
P15559	NQO1_HUMAN	NQO1	NAD(P)H dehydrogenase [quinone] 1	GeneCards
P25942	TNR5_HUMAN	CD40	umor necrosis factor receptor superfamily member	GeneCards
Q93088	BHMT1_HUMAN	BHMT	Betaine--homocysteine S-methyltransferase 1	GeneCards
P35575	G6PC1_HUMAN	G6PC1	Glucose-6-phosphatase catalytic subunit 1	GeneCards
P09917	LOX5_HUMAN	ALOX5	Polyunsaturated fatty acid 5-lipoxygenase	GeneCards
P01344	IGF2_HUMAN	IGF2	Insulin-like growth factor II	eCards; NCBI
P00390	GSHR_HUMAN	GSR	Glutathione reductase, mitochondrial	GeneCards
P08922	ROS1_HUMAN	ROS1	Proto-oncogene tyrosine-protein kinase ROS	GeneCards

Q07869	PPARA_HUMAN	PPARA	Peroxisome proliferator-activated receptor alpha	GeneCards
Q15070	OXA1L_HUMAN	OXA1L	Mitochondrial inner membrane protein OXA1L	GeneCards
Q96KQ7	EHMT2_HUMAN	EHMT2	Histone-lysine N-methyltransferase EHMT2	GeneCards
O75164	KDM4A_HUMAN	KDM4A	Lysine-specific demethylase 4A	GeneCards
P83916	CBX1_HUMAN	CBX1	Chromobox protein homolog 1	GeneCards
P02647	APOA1_HUMAN	APOA1	Apolipoprotein A-I	GeneCards
P27169	PON1_HUMAN	PON1	Serum paraoxonase/arylesterase 1	GeneCards
O75027	ABCB7_HUMAN	ABCB7	Iron-sulfur clusters transporter ABCB7	GeneCards
Q06546	GABPA_HUMAN	GABPA	GA-binding protein alpha chain	GeneCards
Q8WTR2	DUS19_HUMAN	DUSP19	Dual specificity protein phosphatase 19	GeneCards
P40763	STAT3_HUMAN	STAT3	Signal transducer and activator of transcription 3	GeneCards
Q96RI1	NR1H4_HUMAN	NR1H4	Bile acid receptor	GeneCards
O75469	NR1I2_HUMAN	NR1I2	Nuclear receptor subfamily 1 group I member 2	GeneCards
Q15848	ADIPO_HUMAN	ADIPOQ	Adiponectin	GeneCards
Q16539	MK14_HUMAN	MAPK14	Mitogen-activated protein kinase 14	eCards; NCBI
P10415	BCL2_HUMAN	BCL2	Apoptosis regulator Bcl-2	GeneCards
P05231	IL6_HUMAN	IL6	Interleukin-6	GeneCards
P28482	MK01_HUMAN	MAPK1	Mitogen-activated protein kinase 1	GeneCards
P01138	NGF_HUMAN	NGF	Beta-nerve growth factor	GeneCards
P00734	THRB_HUMAN	F2	Prothrombin	GeneCards
P42574	CASP3_HUMAN	CASP3	Caspase-3	GeneCards
P31749	AKT1_HUMAN	AKT1	RAC-alpha serine/threonine-protein kinase	GeneCards
P09874	PARP1_HUMAN	PARP1	Poly [ADP-ribose] polymerase 1	GeneCards
Q07812	BAX_HUMAN	BAX	Apoptosis regulator BAX	GeneCards
P10451	OSTP_HUMAN	SPP1	Osteopontin	GeneCards
P10145	IL8_HUMAN	CXCL8	Interleukin-8	GeneCards
P00533	EGFR_HUMAN	EGFR	Epidermal growth factor receptor	GeneCards
P04792	HSPB1_HUMAN	HSPB1	Heat shock protein beta-1	GeneCards
P24385	CCND1_HUMAN	CCND1	G1/S-specific cyclin-D1	GeneCards
P24941	CDK2_HUMAN	CDK2	Cyclin-dependent kinase 2	GeneCards
P08183	MDR1_HUMAN	ABCB1	ATP-dependent translocase ABCB1	GeneCards

P01137	TGFB1_HUMAN	TGFB1	Transforming growth factor beta-1 proprotein	GeneCards
P15692	VEGFA_HUMAN	VEGFA	Vascular endothelial growth factor A	GeneCards
P35222	CTNB1_HUMAN	CTNNB1	Catenin beta-1	GeneCards
P05164	PERM_HUMAN	MPO	Myeloperoxidase	GeneCards
P12931	SRC_HUMAN	SRC	Proto-oncogene tyrosine-protein kinase Src	GeneCards
Q14790	CASP8_HUMAN	CASP8	Caspase-8	GeneCards
P11473	VDR_HUMAN	VDR	Vitamin D3 receptor	GeneCards
P25445	TNR6_HUMAN	FAS	umor necrosis factor receptor superfamily member	GeneCards
P20594	ANPRB_HUMAN	NPR2	Atrial natriuretic peptide receptor 2	GeneCards
P40189	IL6RB_HUMAN	IL6ST	Interleukin-6 receptor subunit beta	GeneCards
P27361	MK03_HUMAN	MAPK3	Mitogen-activated protein kinase 3	GeneCards
P51692	STA5B_HUMAN	STAT5B	Signal transducer and activator of transcription 5B	GeneCards
P05019	IGF1_HUMAN	IGF1	Insulin-like growth factor I	GeneCards
P35354	PGH2_HUMAN	PTGS2	Prostaglandin G/H synthase 2	GeneCards
P05412	JUN_HUMAN	JUN	Transcription factor Jun	eCards; NCBI
P10632	CP2C8_HUMAN	CYP2C8	Cytochrome P450 2C8	GeneCards
O95342	ABCBB_HUMAN	ABCB11	Bile salt export pump	GeneCards
P99999	CYC_HUMAN	CYCS	Cytochrome c	GeneCards
Q16665	HIF1A_HUMAN	HIF1A	Hypoxia-inducible factor 1-alpha	GeneCards
P07203	GPX1_HUMAN	GPX1	Glutathione peroxidase 1	eCards; NCBI
P28300	LYOX_HUMAN	LOX	Protein-lysine 6-oxidase	GeneCards
Q00266	METK1_HUMAN	MAT1A	S-adenosylmethionine synthase isoform type-1	GeneCards
P16070	CD44_HUMAN	CD44	CD44 antigen	GeneCards
Q14653	IRF3_HUMAN	IRF3	Interferon regulatory factor 3	GeneCards
Q06520	ST2A1_HUMAN	SULT2A1	Sulfotransferase 2A1	GeneCards
P49682	CXCR3_HUMAN	CXCR3	C-X-C chemokine receptor type 3	GeneCards
Q9H3H5	GPT_HUMAN	DPAGT1	osamine--dolichyl-phosphate N-acetylglucosamine	GeneCards
P22004	BMP6_HUMAN	BMP6	Bone morphogenetic protein 6	GeneCards
P02778	CXL10_HUMAN	CXCL10	C-X-C motif chemokine 10	GeneCards
Q13145	BAMBI_HUMAN	BAMBI	MP and activin membrane-bound inhibitor homolo	eCards; NCBI
P01588	EPO_HUMAN	EPO	Erythropoietin	eCards; NCBI

Q9UBC0	HNF6_HUMAN	ONECUT1	Hepatocyte nuclear factor 6	GeneCards
P03973	SLPI_HUMAN	SLPI	Antileukoproteinase	GeneCards
O14625	CXL11_HUMAN	CXCL11	C-X-C motif chemokine 11	GeneCards
Q16082	HSPB2_HUMAN	HSPB2	Heat shock protein beta-2	GeneCards
P19875	CXCL2_HUMAN	CXCL2	C-X-C motif chemokine 2	GeneCards
Q9NSA1	FGF21_HUMAN	FGF21	Fibroblast growth factor 21	GeneCards
P40305	IFI27_HUMAN	IFI27	nterferon alpha-inducible protein 27, mitochondria	GeneCards
P29279	CCN2_HUMAN	CCN2	CCN family member 2	GeneCards
Q07325	CXCL9_HUMAN	CXCL9	C-X-C motif chemokine 9	GeneCards
Q8NAU1	FNDC5_HUMAN	FNDC5	Fibronectin type III domain-containing protein 5	GeneCards
Q8N884	CGAS_HUMAN	CGAS	Cyclic GMP-AMP synthase	GeneCards
P08069	IGF1R_HUMAN	IGF1R	Insulin-like growth factor 1 receptor	GeneCards
P11802	CDK4_HUMAN	CDK4	Cyclin-dependent kinase 4	GeneCards
Q00534	CDK6_HUMAN	CDK6	Cyclin-dependent kinase 6	GeneCards
P35968	VGFR2_HUMAN	KDR	Vascular endothelial growth factor receptor 2	GeneCards
P14210	HGF_HUMAN	HGF	Hepatocyte growth factor	GeneCards
P04637	P53_HUMAN	TP53	Cellular tumor antigen p53	GeneCards
P37231	PPARG_HUMAN	PPARG	Peroxisome proliferator-activated receptor gamma	GeneCards
P29597	TYK2_HUMAN	TYK2	Non-receptor tyrosine-protein kinase TYK2	GeneCards
P01106	MYC_HUMAN	MYC	Myc proto-oncogene protein	GeneCards
Q04206	TF65_HUMAN	RELA	Transcription factor p65	GeneCards
P00367	DHE3_HUMAN	GLUD1	Glutamate dehydrogenase 1, mitochondrial	GeneCards
Q8NBP7	PCSK9_HUMAN	PCSK9	Proprotein convertase subtilisin/kexin type 9	GeneCards
P43405	KSYK_HUMAN	SYK	Tyrosine-protein kinase SYK	GeneCards
P05121	PAI1_HUMAN	SERPINE1	Plasminogen activator inhibitor 1	GeneCards
P84022	SMAD3_HUMAN	SMAD3	Mothers against decapentaplegic homolog 3	GeneCards
P04179	SODM_HUMAN	SOD2	Superoxide dismutase [Mn], mitochondrial	eCards; NCBI
P02768	ALBU_HUMAN	ALB	Albumin	GeneCards
O95718	ERR2_HUMAN	ESRRB	Steroid hormone receptor ERR2	GeneCards
Q09472	EP300_HUMAN	EP300	Histone acetyltransferase p300	GeneCards
P06276	CHLE_HUMAN	BCHE	Cholinesterase	GeneCards

P06858	LIPL_HUMAN	LPL	Lipoprotein lipase	GeneCards
P49327	FAS_HUMAN	FASN	Fatty acid synthase	GeneCards
P63261	ACTG_HUMAN	ACTG1	Actin, cytoplasmic 2	GeneCards
P07202	PERT_HUMAN	TPO	Thyroid peroxidase	GeneCards
Q9NZJ5	E2AK3_HUMAN	EIF2AK3	ıkaryotic translation initiation factor 2-alpha kinas	GeneCards
P16220	CREB1_HUMAN	CREB1	Cyclic AMP-responsive element-binding protein 1	GeneCards
P11712	CP2C9_HUMAN	CYP2C9	Cytochrome P450 2C9	GeneCards
P01579	IFNG_HUMAN	IFNG	Interferon gamma	GeneCards
P21439	MDR3_HUMAN	ABCB4	Phosphatidylcholine translocator ABCB4	GeneCards
P21580	TNAP3_HUMAN	TNFAIP3	Tumor necrosis factor alpha-induced protein 3	GeneCards
Q13501	SQSTM_HUMAN	SQSTM1	Sequestosome-1	GeneCards
P13500	CCL2_HUMAN	CCL2	C-C motif chemokine 2	GeneCards
P16671	CD36_HUMAN	CD36	Platelet glycoprotein 4	GeneCards
Q14145	KEAP1_HUMAN	KEAP1	Kelch-like ECH-associated protein 1	GeneCards
P98170	XIAP_HUMAN	XIAP	E3 ubiquitin-protein ligase XIAP	GeneCards
P05787	K2C8_HUMAN	KRT8	Keratin, type II cytoskeletal 8	GeneCards
P01584	IL1B_HUMAN	IL1B	Interleukin-1 beta	GeneCards
P41159	LEP_HUMAN	LEP	Leptin	GeneCards
P07288	KLK3_HUMAN	KLK3	Prostate-specific antigen	GeneCards
P55055	NR1H2_HUMAN	NR1H2	Oxysterols receptor LXR-beta	GeneCards
P43490	NAMPT_HUMAN	NAMPT	Nicotinamide phosphoribosyltransferase	GeneCards
P11021	BIP_HUMAN	HSPA5	Endoplasmic reticulum chaperone BiP	GeneCards
P22301	IL10_HUMAN	IL10	Interleukin-10	GeneCards
P10914	IRF1_HUMAN	IRF1	Interferon regulatory factor 1	GeneCards
P48023	TNFL6_HUMAN	FASLG	Tumor necrosis factor ligand superfamily member	GeneCards
Q96RR4	KKCC2_HUMAN	CAMKK2	ılcium/calmodulin-dependent protein kinase kinas	GeneCards
Q9BYW2	SETD2_HUMAN	SETD2	Histone-lysine N-methyltransferase SETD2	GeneCards
P52630	STAT2_HUMAN	STAT2	Signal transducer and activator of transcription 2	GeneCards
Q8WTV0	SCRB1_HUMAN	SCARB1	Scavenger receptor class B member 1	GeneCards
P49961	ENTP1_HUMAN	ENTPD1	Ectonucleoside triphosphate diphosphohydrolase 1	GeneCards
Q86X55	CARM1_HUMAN	CARM1	Histone-arginine methyltransferase CARM1	GeneCards

P55211	CASP9_HUMAN	CASP9	Caspase-9	GeneCards
Q99683	M3K5_HUMAN	MAP3K5	Mitogen-activated protein kinase kinase kinase 5	GeneCards
Q9Y4K0	LOXL2_HUMAN	LOXL2	Lysyl oxidase homolog 2	GeneCards
Q03181	PPARD_HUMAN	PPARD	Peroxisome proliferator-activated receptor delta	GeneCards
Q9NTG7	SIR3_HUMAN	SIRT3	-dependent protein deacetylase sirtuin-3, mitochor	Cards; NCBI
O14980	XPO1_HUMAN	XPO1	Exportin-1	GeneCards
P09651	ROA1_HUMAN	HNRNPA1	Heterogeneous nuclear ribonucleoprotein A1	GeneCards
P17174	AATC_HUMAN	GOT1	Aspartate aminotransferase, cytoplasmic	GeneCards
Q14749	GNMT_HUMAN	GNMT	Glycine N-methyltransferase	GeneCards
Q13158	FADD_HUMAN	FADD	FAS-associated death domain protein	GeneCards
P22303	ACES_HUMAN	ACHE	Acetylcholinesterase	GeneCards
P08047	SP1_HUMAN	SP1	Transcription factor Sp1	GeneCards
P42166	LAP2A_HUMAN	TMPO	Lamina-associated polypeptide 2, isoform alpha	GeneCards
P36956	SRBP1_HUMAN	SREBF1	Sterol regulatory element-binding protein 1	GeneCards
P34972	CNR2_HUMAN	CNR2	Cannabinoid receptor 2	GeneCards
O15392	BIRC5_HUMAN	BIRC5	Baculoviral IAP repeat-containing protein 5	GeneCards
Q07817	B2CL1_HUMAN	BCL2L1	Bcl-2-like protein 1	GeneCards
Q07820	MCL1_HUMAN	MCL1	ced myeloid leukemia cell differentiation protein M	GeneCards
Q9UBK2	PRGC1_HUMAN	PPARGC1A	ne proliferator-activated receptor gamma coactivat	GeneCards
NR4A3	NR4A3_HUMAN	NR4A3	Nuclear receptor subfamily 4 group A member 3	GeneCards
P0DMV8	HS71A_HUMAN	HSPA1A	Heat shock 70 kDa protein 1A	GeneCards
Q00613	HSF1_HUMAN	HSF1	Heat shock factor protein 1	GeneCards
P14625	ENPL_HUMAN	HSP90B1	Endoplasmin	GeneCards
Q12884	SEPR_HUMAN	FAP	Prolyl endopeptidase FAP	GeneCards
Q96A54	PAQR1_HUMAN	ADIPOR1	Adiponectin receptor protein 1	GeneCards
P14550	AK1A1_HUMAN	AKR1A1	Aldo-keto reductase family 1 member A1	GeneCards
P26045	PTN3_HUMAN	PTPN3	Tyrosine-protein phosphatase non-receptor type 3	GeneCards
P15923	TFE2_HUMAN	TCF3	Transcription factor E2-alpha	GeneCards
Q8WVQ1	CANT1_HUMAN	CANT1	Soluble calcium-activated nucleotidase 1	GeneCards
O15519	CFLAR_HUMAN	CFLAR	CASP8 and FADD-like apoptosis regulator	GeneCards
P20248	CCNA2_HUMAN	CCNA2	Cyclin-A2	GeneCards

P06881	CALCA_HUMAN	CALCA	Calcitonin gene-related peptide 1	GeneCards
P27540	ARNT_HUMAN	ARNT	Aryl hydrocarbon receptor nuclear translocator	GeneCards
P15090	FABP4_HUMAN	FABP4	Fatty acid-binding protein, adipocyte	GeneCards
Q9UDR5	AASS_HUMAN	AASS	ha-aminoadipic semialdehyde synthase, mitochonc	GeneCards
P11245	ARY2_HUMAN	NAT2	Arylamine N-acetyltransferase 2	GeneCards
P42357	HUTH_HUMAN	HAL	Histidine ammonia-lyase	GeneCards
Q86V24	PAQR2_HUMAN	ADIPOR2	Adiponectin receptor protein 2	GeneCards
O00116	ADAS_HUMAN	AGPS	xyldihydroxyacetonephosphate synthase, peroxisor	GeneCards
Q13077	TRAF1_HUMAN	TRAF1	TNF receptor-associated factor 1	GeneCards
P40225	TPO_HUMAN	THPO	Thrombopoietin	GeneCards
P15514	AREG_HUMAN	AREG	Amphiregulin	GeneCards
Q16873	LTC4S_HUMAN	LTC4S	Leukotriene C4 synthase	GeneCards
O14529	CUX2_HUMAN	CUX2	Homeobox protein cut-like 2	GeneCards
P22310	UD14_HUMAN	UGT1A4	UDP-glucuronosyltransferase 1A4	GeneCards
P10997	IAPP_HUMAN	IAPP	Islet amyloid polypeptide	GeneCards
P17275	JUNB_HUMAN	JUNB	Transcription factor JunB	GeneCards
P34932	HSP74_HUMAN	HSPA4	Heat shock 70 kDa protein 4	GeneCards
P01562	IFNA1_HUMAN	IFNA1	Interferon alpha-1/13	GeneCards
O43520	AT8B1_HUMAN	ATP8B1	Phospholipid-transporting ATPase IC	GeneCards
Q9UIK4	DAPK2_HUMAN	DAPK2	Death-associated protein kinase 2	GeneCards
Q8TDU6	GPBAR_HUMAN	GPBAR1	G-protein coupled bile acid receptor 1	GeneCards
Q99969	RARR2_HUMAN	RARRES2	Retinoic acid receptor responder protein 2	GeneCards
Q8IW75	SPA12_HUMAN	SERPINA12	Serpin A12	GeneCards
Q8WWZ1	IL1FA_HUMAN	IL1F10	Interleukin-1 family member 10	eCards; NCBI (
Q8WWA0	ITLN1_HUMAN	ITLN1	Intelectin-1	GeneCards
Q16619	CTF1_HUMAN	CTF1	Cardiotrophin-1	GeneCards
Q06141	REG3A_HUMAN	REG3A	Regenerating islet-derived protein 3-alpha	GeneCards
P55061	BI1_HUMAN	TMBIM6	Bax inhibitor 1	GeneCards
O75293	GA45B_HUMAN	GADD45B	arrest and DNA damage-inducible protein GADD	GeneCards
Q5VU57	CBPC6_HUMAN	AGBL4	Cytosolic carboxypeptidase 6	GeneCards
Q9Y4F9	RIPR2_HUMAN	RIPOR2	Rho family-interacting cell polarization regulator 2	GeneCards

P30281	CCND3_HUMAN	CCND3	G1/S-specific cyclin-D3	GeneCards
P08253	MMP2_HUMAN	MMP2	72 kDa type IV collagenase	GeneCards
P00749	UROK_HUMAN	PLAU	Urokinase-type plasminogen activator	GeneCards
P12004	PCNA_HUMAN	PCNA	Proliferating cell nuclear antigen	GeneCards
P08684	CP3A4_HUMAN	CYP3A4	Cytochrome P450 3A4	GeneCards
P16035	TIMP2_HUMAN	TIMP2	TIMP Metallopeptidase Inhibitor 2	GeneCards
P47710	CASA1_HUMAN	CSN1S1	Alpha-S1-casein	GeneCards
O15245	S22A1_HUMAN	SLC22A1	Solute carrier family 22 member 1	NCBI Gene

Supplementary Table S5a. 32 Common targets between *Phyllanthus niruri* and hepatoprotective

Uniprot ID	Target Name	Protein Name
O15245	SLC22A1	Solute carrier family 22 member 1
O95718	ESRRB	Steroid hormone receptor ERR2
P00533	EGFR	Epidermal growth factor receptor
P00734	F2	Prothrombin
P05121	SERPINE1	Plasminogen activator inhibitor 1

P05164	MPO	Myeloperoxidase
P05412	JUN	Transcription factor Jun
P08069	IGF1R	Insulin-like growth factor 1 receptor
P08183	ABCB1	ATP-dependent translocase ABCB1
P08253	MMP2	72 kDa type IV collagenase
P09917	ALOX5	Polyunsaturated fatty acid 5-lipoxygenase
P0DMV8	HSPA1A	Heat shock 70 kDa protein 1A
P10632	CYP2C8	Cytochrome P450 2C8
P11712	CYP2C9	Cytochrome P450 2C9
P11802	CDK4	Cyclin-dependent kinase 4

P12931	SRC	Proto-oncogene tyrosine-protein kinase Src
P14550	AKR1A1	Aldehyde reductase
P15559	NQO1	NAD(P)H dehydrogenase [quinone] 1
P15692	VEGFA	Vascular endothelial growth factor A
P16220	CREB1	Cyclic AMP-responsive element-binding protein 1
P20248	CCNA2	Cyclin-A2
P22303	ACHE	Acetylcholinesterase
P24385	CCND1	G1/S-specific cyclin-D1
P24941	CDK2	Cyclin-dependent kinase 2
P31749	AKT1	RAC-alpha serine/threonine-protein kinase

P35968	KDR	Vascular endothelial growth factor receptor 2
P43405	SYK	Tyrosine-protein kinase SYK
P55055	NR1H2	Oxysterols receptor LXR-beta
P84022	SMAD3	Mothers against decapentaplegic homolog 3
Q04206	RELA	Transcription factor p65
Q16236	NFE2L2	Nuclear factor erythroid 2-related factor 2
Q8TDU6	GPBAR1	G-protein coupled bile acid receptor 1

Supplementary Table S6. Network centrality analysis and evaluation

Uniprot ID	Target Name	Degree (DC)	Eigenvector (EC)	tweenness (B
P31749	AKT1	23.00	0.308592	125.696754
P05412	JUN	21.00	0.30004486	67.99322
P15692	VEGFA	20.00	0.29250038	49.125034
P00533	EGFR	19.00	0.26337278	139.25342

P24385	CCND1	18.00	0.27864814	37.463142
P12931	SRC	18.00	0.269667	36.115685
P16220	CREB1	14.00	0.22407112	19.890476
P08253	MMP2	14.00	0.22369164	16.725613
Q04206	RELA	13.00	0.20796865	14.292637
P84022	SMAD3	13.00	0.22660483	4.4428573
P08183	ABCB1	11.00	0.15840566	99.63122
P11802	CDK4	11.00	0.19479962	1.6301588
P08069	IGF1R	11.00	0.20018737	1.415873
P05121	SERPINE1	11.00	0.1865182	6.6517963
P20248	CCNA2	10.00	0.18158863	2.0444446
P35968	KDR	10.00	0.18072288	2.2587948
P05164	MPO	10.00	0.12834491	28.835278
P24941	CDK2	9.00	0.16237886	0.62222224
Q16236	NFE2L2	9.00	0.15268639	7.410714
P09917	ALOX5	7.00	0.07957323	24.861996
P15559	NQO1	7.00	0.093230285	59.86753
P11712	CYP2C9	6.00	0.035939187	13.637851
P00734	F2	6.00	0.08899754	6.833296
P0DMV8	HSPA1A	6.00	0.10507425	4.2
P43405	SYK	5.00	0.08162008	3.0666666
P10632	CYP2C8	4.00	0.02117032	2.0333333
O15245	SLC22A1	3.00	0.015757877	0
P22303	ACHE	2.00	0.03877835	0
P14550	AKR1A1	1.00	0.006790187	0
O95718	ESRRB	1.00	0.019180309	0
Q8TDU6	GPBAR1	1.00	0.019180309	0
P55055	NR1H2	0.00	0	0
MEDIAN		**10.00**	**0.16039226**	**6.74254615**

Supplementary Table S7. 568]

Term	**P-value**

response to UV-	1.89E-11	CCND1	MMP2	AKT1
positive	4.71E-10	CCND1	SRC	AKT1
cellular response	1.11E-08	JUN	AKT1	EGFR
positive	4.27E-08	CCND1	AKT1	EGFR
cytokine-	6.79E-08	CCND1	SRC	MMP2
response to UV	6.98E-08	CCND1	AKT1	EGFR
positive	7.15E-08	CCND1	AKT1	EGFR
cellular response	1.27E-07	JUN	CREB1	AKT1
positive	0.000000163	CCND1	AKT1	EGFR
cellular response	1.83E-07	JUN	AKT1	EGFR
regulation of	1.95E-07	JUN	SRC	AKT1
response to	2.29E-07	JUN	AKT1	EGFR
positive	2.53E-07	CCND1	SRC	AKT1
negative	2.89E-07	SRC	AKT1	EGFR
transmembrane	3.87E-07	SRC	MMP2	AKT1
positive	4.09E-07	CCND1	AKT1	EGFR
cellular response	4.58E-07	AKT1	EGFR	RELA
cellular response	9.26E-07	CCND1	MMP2	AKT1
positive	9.47E-07	JUN	MMP2	AKT1
negative	9.55E-07	SRC	AKT1	EGFR
epidermal growth	1.01E-06	SRC	AKT1	EGFR
positive	1.24E-06	JUN	CREB1	AKT1
response to	1.38E-06	CREB1	SRC	AKT1
negative	1.46E-06	SRC	AKT1	VEGFA
positive	1.54E-06	CCND1	AKT1	EGFR
negative	1.63E-06	SRC	AKT1	VEGFA
positive	1.92E-06	CCND1	AKT1	EGFR
response to	2.02E-06	JUN	AKT1	EGFR
regulation of	2.24E-06	JUN	CCND1	RELA
regulation of	2.70E-06	EGFR	VEGFA	
ERBB signaling	2.84E-06	SRC	AKT1	EGFR
positive	2.84E-06	CCND1	AKT1	EGFR

positive	3.00E-06	CCND1	AKT1	EGFR
positive	3.04E-06	JUN	CREB1	AKT1
positive	3.33E-06	CCND1	AKT1	EGFR
regulation of	3.55E-06	CCND1	AKT1	EGFR
regulation of	3.66E-06	CCND1	AKT1	EGFR
negative	4.71E-06	SRC	AKT1	RELA
negative	5.09E-06	SRC	AKT1	RELA
regulation of	5.48E-06	CCND1	AKT1	EGFR
regulation of	5.69E-06	SRC	AKT1	EGFR
regulation of	7.02E-06	SRC	AKT1	VEGFA
regulation of	7.76E-06	SRC	EGFR	VEGFA
positive	8.01E-06	AKT1	EGFR	VEGFA
positive	8.27E-06	SRC	AKT1	VEGFA
regulation of cell	8.90E-06	JUN	AKT1	EGFR
regulation of	9.38E-06	AKT1	EGFR	VEGFA
cellular response	1.19E-05	SRC	AKT1	RELA
regulation of	1.36E-05	CCND1	SRC	AKT1
positive	1.86E-05	AKT1	EGFR	VEGFA
cellular response	1.95E-05	JUN	AKT1	EGFR
regulation of cell	1.98E-05	SRC	AKT1	EGFR
positive	2.06E-05	JUN	CREB1	EGFR
cellular response	2.24E-05	JUN	AKT1	EGFR
negative	2.54E-05	JUN	CREB1	CCND1
regulation of	2.60E-05	AKT1	EGFR	RELA
cell migration	2.74E-05	AKT1	VEGFA	
positive	3.57E-05	AKT1	EGFR	RELA
positive	3.76E-05	RELA	VEGFA	
positive	3.76E-05	JUN	MMP2	
protein	4.00E-05	SRC	AKT1	EGFR
protein	4.27E-05	CREB1	SRC	AKT1
blood vessel	4.53E-05	AKT1	VEGFA	
regulation of	4.94E-05	AKT1	EGFR	

positive	5.37E-05	CREB1	AKT1	
positive	6.21E-05	SRC	EGFR	RELA
cellular response	6.76E-05	SRC	RELA	
negative	7.68E-05	SRC	AKT1	RELA
negative	7.78E-05	AKT1	EGFR	
positive	7.78E-05	SRC	EGFR	
regulation of	8.77E-05	SRC	AKT1	EGFR
ERBB2 signaling	8.87E-05	SRC	EGFR	
positive	0.00010023	JUN	RELA	
cellular response	0.00010023	RELA	VEGFA	
cellular response	0.000103616	CREB1	EGFR	RELA
positive	0.000106279	CREB1	AKT1	
regulation of	0.000106279	CREB1	AKT1	
regulation of	0.000111766	JUN	CREB1	CCND1
regulation of	0.000118906	JUN	MMP2	
regulation of	1.23E-04	JUN	CREB1	AKT1
regulation of	0.000132235	AKT1	EGFR	
positive	0.000146186	AKT1	RELA	VEGFA
negative	0.000146264	AKT1	VEGFA	
negative	0.000148941	JUN	CCND1	RELA
positive	0.000168621	CREB1	AKT1	
positive	0.000176423	EGFR	RELA	
regulation of pri-	0.000176423	JUN	RELA	
positive	0.00019035	SRC	EGFR	VEGFA
positive	0.000200875	AKT1	VEGFA	
regulation of	0.000218047	EGFR	VEGFA	
positive	0.000226894	CREB1	AKT1	
sprouting	0.000235914	AKT1	VEGFA	
positive	0.000235914	AKT1	EGFR	
positive	0.000235914	AKT1	EGFR	
positive	0.000245109	EGFR	RELA	
regulation of	0.000254477	SRC	VEGFA	

regulation of	0.000264018	AKT1	VEGFA	
peptidyl-tyrosine	0.000273733	SRC	EGFR	
I-kappaB	0.000335652	AKT1	RELA	
regulation of	0.000357673	CCND1	RELA	
negative	0.000357673	SRC	AKT1	
regulation of	0.000357673	SRC	RELA	
regulation of	0.000391995	AKT1	EGFR	
vascular	0.000391995	SRC	VEGFA	
positive	0.000415735	EGFR	VEGFA	
peptidyl-tyrosine	0.000415735	SRC	EGFR	
NIK/NF-kappaB	0.000478087	AKT1	RELA	
positive	0.000504225	AKT1	EGFR	
positive	0.00051755	AKT1	VEGFA	
negative	0.000558549	SRC	VEGFA	
regulation of fat	0.000558549	CREB1	AKT1	
regulation of	0.000558549	EGFR	RELA	
regulation of	0.000558549	AKT1	EGFR	
ephrin receptor	0.000586733	SRC	MMP2	
positive	0.000645139	AKT1	VEGFA	
response to	0.000645139	SRC	RELA	
negative	0.00067536	JUN	AKT1	
regulation of	0.000690724	AKT1	VEGFA	
transforming	0.000690724	JUN	SRC	
regulation of	0.000737831	AKT1	VEGFA	
regulation of	0.000753871	EGFR	VEGFA	
regulation of	0.000819717	EGFR	VEGFA	
epithelial cell	0.000888253	AKT1	VEGFA	
positive	0.000888253	AKT1	EGFR	
positive	0.000905807	AKT1	EGFR	
positive	0.000959472	AKT1	VEGFA	
regulation of	0.000977695	SRC	EGFR	
positive	0.001048528	AKT1	EGFR	VEGFA

response to	0.001052258	AKT1	RELA
Fc-epsilon	0.001071315	JUN	RELA
Fc receptor	0.001090539	JUN	RELA
activation of	0.001129485	AKT1	VEGFA
cellular response	0.001129485	JUN	SRC
cellular response	0.001149208	SRC	RELA
stimulatory C-	0.001149208	SRC	RELA
regulation of	0.001169096	SRC	VEGFA
positive	0.001209371	SRC	VEGFA
innate immune	0.001229757	SRC	RELA
positive	0.001442699	AKT1	EGFR
regulation of cell	0.001532484	SRC	VEGFA
regulation of cell	0.001532484	AKT1	EGFR
transmembrane	0.001532484	JUN	SRC
positive	0.00155534	SRC	VEGFA
negative	0.001601544	CREB1	SRC
regulation of	0.001624891	CREB1	SRC
enzyme linked	0.001695912	SRC	EGFR
response to	0.001943227	SRC	RELA
positive	0.002046691	SRC	VEGFA
positive	0.002233963	SRC	EGFR
positive	0.002248161	VEGFA	
regulation of	0.002248161	VEGFA	
regulation of	0.002248161	VEGFA	
positive	0.002248161	AKT1	
positive	0.002248161	VEGFA	
regulation of	0.002248161	SRC	
positive	0.002248161	VEGFA	
cellular response	0.002248161	RELA	
positive	0.002248161	EGFR	
coronary artery	0.002248161	VEGFA	
regulation of	0.002248161	RELA	

positive	0.002248161	VEGFA	
vascular	0.002248161	VEGFA	
regulation of	0.002248161	EGFR	
positive	0.002691489	SRC	VEGFA
positive	0.002697256	VEGFA	
response to	0.002697256	RELA	
positive	0.002697256	AKT1	
response to	0.002697256	RELA	
response to	0.002697256	RELA	
signal complex	0.002697256	SRC	
positive	0.002697256	SRC	
cellular response	0.002697256	RELA	
regulation of	0.002697256	AKT1	
regulation of	0.002697256	VEGFA	
venous blood	0.002697256	VEGFA	
negative	0.002721438	CREB1	SRC
positive	0.002781812	AKT1	EGFR
negative	0.003146172	EGFR	
angiotensin-	0.003146172	SRC	
regulation of	0.003146172	VEGFA	
positive	0.003146172	SRC	
positive	0.003146172	RELA	
interleukin-18-	0.003146172	AKT1	
positive	0.003146172	AKT1	
cellular response	0.003146172	AKT1	
sphingosine-1-	0.003146172	AKT1	
regulation of	0.003146172	VEGFA	
regulation of I-	0.003146172	AKT1	
surfactant	0.003146172	VEGFA	
chemical	0.003146172	VEGFA	
T cell apoptotic	0.003146172	AKT1	
nucleotide-	0.003146172	RELA	

positive	0.003146172	VEGFA	
vascular	0.003146172	VEGFA	
vascular wound	0.003146172	VEGFA	
regulation of non-	0.003146172	SRC	
cellular response	0.003222111	AKT1	RELA
axon guidance	0.0035214	SRC	VEGFA
positive	0.003594909	VEGFA	
negative	0.003594909	AKT1	
regulation of	0.003594909	AKT1	
cellular response	0.003594909	RELA	
mammary gland	0.003594909	AKT1	
commissural	0.003594909	VEGFA	
coronary	0.003594909	VEGFA	
progesterone	0.003594909	SRC	
regulation of	0.003594909	VEGFA	
entry of	0.003594909	SRC	
negative	0.0038333	CREB1	SRC
regulation of cell	0.004011995	AKT1	EGFR
positive	0.004043466	VEGFA	
anoikis	0.004043466	AKT1	
bone cell	0.004043466	SRC	
bone resorption	0.004043466	SRC	
response to	0.004043466	CCND1	
regulation of	0.004043466	RELA	
positive	0.004043466	AKT1	
intestinal	0.004043466	SRC	
regulation of	0.004043466	AKT1	
positive	0.004043466	VEGFA	
endothelial cell	0.004043466	VEGFA	
positive	0.004157726	EGFR	VEGFA
negative	0.004491844	VEGFA	
regulation of	0.004491844	AKT1	

regulation of	0.004491844	VEGFA	
lactation	0.004491844	VEGFA	
negative	0.004491844	SRC	
cellular response	0.004491844	AKT1	
negative	0.004491844	CREB1	
negative	0.004491844	JUN	
negative	0.004491844	AKT1	
angiogenesis	0.004940043	VEGFA	
camera-type eye	0.004940043	VEGFA	
negative	0.004940043	AKT1	
positive	0.004940043	SRC	
regulation of	0.004940043	SRC	
induction of	0.004940043	VEGFA	
insulin-like	0.004940043	AKT1	
positive	0.004940043	VEGFA	
positive	0.004940043	EGFR	
cellular response	0.004940043	MMP2	
T cell	0.004940043	AKT1	
regulation of	0.004940043	SRC	
tetrahydrobiopter	0.004940043	AKT1	
regulation of	0.004940043	AKT1	
regulation of	0.004940043	SRC	
monocyte	0.004940043	VEGFA	
positive	0.005388063	VEGFA	
eye	0.005388063	VEGFA	
regulation of	0.005388063	AKT1	
negative	0.005388063	VEGFA	
regulation of	0.005388063	AKT1	
positive	0.005388063	VEGFA	
mitotic G1/S	0.005388063	CCND1	
positive	0.005621305	CREB1	AKT1
pteridine-	0.005835903	AKT1	

positive	0.005835903	AKT1	
positive	0.005835903	VEGFA	
response to	0.005835903	RELA	
cardiac cell	0.005835903	VEGFA	
negative	0.005835903	AKT1	
response to UV-	0.005835903	RELA	
regulation of	0.005835903	RELA	
negative	0.005835903	JUN	
entry into host	0.005835903	SRC	
protein	0.005835903	AKT1	
negative	0.006008461	AKT1	EGFR
regulation of	0.006283564	VEGFA	
branching	0.006283564	VEGFA	
positive	0.006283564	AKT1	
positive	0.006283564	AKT1	
negative	0.006283564	RELA	
regulation of	0.006283564	AKT1	
positive	0.006283564	RELA	
ovarian follicle	0.006283564	VEGFA	
vascular	0.006283564	VEGFA	
regulation of	0.006283564	VEGFA	
positive	0.006317899	EGFR	VEGFA
eye	0.006731047	VEGFA	
positive	0.006731047	VEGFA	
regulation of	0.006731047	VEGFA	
positive	0.006731047	AKT1	
regulation of	0.006731047	SRC	
stress fiber	0.006731047	SRC	
regulation of	0.006731047	SRC	
macrophage	0.006731047	VEGFA	
mammary gland	0.006731047	AKT1	
nitric oxide	0.006731047	AKT1	

contractile actin	0.006731047	SRC	
positive	0.006731047	VEGFA	
peptidyl-tyrosine	0.006731047	EGFR	
photoreceptor	0.006731047	VEGFA	
negative	0.00717835	SRC	
negative	0.00717835	SRC	
negative	0.00717835	SRC	
regulation of	0.00717835	VEGFA	
body fluid	0.00717835	VEGFA	
positive	0.00717835	RELA	
regulation of	0.00717835	EGFR	
negative	0.00717835	AKT1	
nitric oxide	0.00717835	AKT1	
positive	0.00717835	AKT1	
positive	0.00717835	JUN	
regulation of cell	0.007337341	JUN	CCND1
positive	0.007625474	EGFR	
regulation of	0.007625474	VEGFA	
positive	0.007625474	VEGFA	
regulation of	0.007625474	VEGFA	
regulation of	0.007625474	VEGFA	
innate immune	0.007627618	SRC	RELA
positive	0.008072419	RELA	
positive	0.008072419	VEGFA	
positive	0.008072419	VEGFA	
negative	0.008072419	AKT1	
negative	0.008072419	AKT1	
regulation of	0.008072419	SRC	
interleukin-6-	0.008072419	SRC	
positive	0.008072419	AKT1	
regulation of	0.008072419	AKT1	
regulation of	0.008072419	EGFR	

positive	0.008072419	VEGFA		
excitatory	0.008519186	AKT1		
positive	0.008519186	VEGFA		
regulation of cell-	0.008519186	VEGFA		
negative	0.008519186	AKT1		
maintenance of	0.008519186	AKT1		
diol metabolic	0.008519186	AKT1		
eye	0.008965774	VEGFA		
positive	0.008965774	CCND1		
negative	0.008965774	SRC		
mesoderm	0.008965774	VEGFA		
dopaminergic	0.008965774	VEGFA		
myeloid cell	0.008965774	SRC		
positive	0.009412183	RELA		
focal adhesion	0.009412183	SRC		
regulation of	0.009412183	SRC		
response to	0.009412183	CREB1		
positive	0.009412183	VEGFA		
response to	0.009412183	SRC		
cellular response	0.009412183	EGFR		
cellular response	0.009412183	SRC		
positive	0.009858413	RELA		
positive	0.009858413	VEGFA		
female gonad	0.009858413	VEGFA		
positive	0.009858413	JUN		
positive	0.009858413	VEGFA		
cellular response	0.009858413	AKT1		
membrane	0.009858413	RELA		
osteoclast	0.009858413	SRC		
regulation of	0.01029278	AKT1	RELA	VEGFA
positive	0.010304464	CCND1		
artery	0.010304464	VEGFA		

negative	0.010304464	AKT1	
positive	0.010304464	VEGFA	
negative	0.010304464	AKT1	
positive	0.010304464	VEGFA	
positive	0.010304464	VEGFA	
positive	0.010750338	VEGFA	
regulation of	0.010750338	VEGFA	
cardiac muscle	0.010750338	VEGFA	
cardiac muscle	0.010750338	VEGFA	
negative	0.010750338	RELA	
positive	0.010750338	VEGFA	
mammary gland	0.010750338	VEGFA	
positive	0.010750338	VEGFA	
protein kinase B	0.010750338	AKT1	
negative	0.011196032	SRC	
positive	0.011196032	AKT1	
in utero	0.011196032	VEGFA	
chemical	0.011196032	AKT1	
positive	0.011641548	AKT1	
negative	0.011641548	AKT1	
regulation of	0.011641548	AKT1	
negative	0.011641548	SRC	
TOR signaling	0.011641548	AKT1	
mononuclear cell	0.011641548	VEGFA	
positive	0.012086886	VEGFA	
positive	0.012086886	EGFR	
camera-type eye	0.012086886	VEGFA	
positive	0.012086886	AKT1	
positive	0.012106352	AKT1	VEGFA
negative	0.012532045	AKT1	
cellular response	0.012532045	VEGFA	
positive	0.012532045	AKT1	

cellular response	0.012532045	EGFR	
regulation of	0.012532045	AKT1	
positive	0.012532045	AKT1	
nucleotide-	0.012532045	RELA	
regulation of	0.012532045	AKT1	
positive	0.012977027	SRC	
positive	0.012977027	VEGFA	
negative	0.012977027	SRC	
phosphorylation	0.013088497	CREB1	AKT1
artery	0.01342183	VEGFA	
respiratory tube	0.01342183	VEGFA	
positive	0.01342183	SRC	
activation of	0.013866454	AKT1	
negative	0.013866454	JUN	
positive	0.013866454	RELA	
cellular nitrogen	0.013866454	AKT1	
activation of	0.014310901	EGFR	
negative	0.014310901	SRC	
negative	0.014310901	SRC	
positive	0.014310901	AKT1	
regulation of cell	0.014310901	VEGFA	
positive	0.014310901	SRC	
modulation by	0.014310901	JUN	
endodermal cell	0.014310901	MMP2	
regulation of	0.01475517	VEGFA	
vasculogenesis	0.01475517	VEGFA	
muscle cell	0.01475517	VEGFA	
regulation of	0.015199261	RELA	
positive	0.015199261	AKT1	
negative	0.015199261	AKT1	
cell-substrate	0.015199261	SRC	
regulation of	0.015199261	AKT1	

phosphatidylinos	0.015199261	AKT1	
protein insertion	0.015199261	EGFR	
regulation of T	0.015643173	RELA	
respiratory	0.015643173	VEGFA	
cellular response	0.015643173	RELA	
lung	0.015643173	VEGFA	
positive	0.015643173	VEGFA	
regulation of	0.015643173	AKT1	
regulation of	0.016086908	VEGFA	
endoderm	0.016086908	MMP2	
regulation of	0.016530466	AKT1	
regulation of	0.016530466	VEGFA	
regulation of	0.016530466	VEGFA	
response to	0.016973845	EGFR	
negative	0.017355954	JUN	RELA
response to	0.017417047	MMP2	
cellular response	0.017417047	SRC	
membrane	0.017417047	RELA	
endothelial cell	0.017417047	VEGFA	
negative	0.017860071	EGFR	
negative	0.017860071	AKT1	
regulation of	0.017860071	AKT1	
regulation of	0.018302918	AKT1	
regulation of cell	0.018302918	AKT1	
response to	0.018302918	AKT1	
regulation of	0.018302918	AKT1	
negative	0.018745587	EGFR	
positive	0.018745587	SRC	
regulation of cell-	0.019188079	SRC	
negative	0.019188079	AKT1	
positive	0.019188079	EGFR	
cellular response	0.019188079	CREB1	

positive	0.019630393	VEGFA	
negative	0.019630393	EGFR	
response to	0.019630393	MMP2	
branching	0.019630393	VEGFA	
intracellular	0.019630393	SRC	
positive	0.019630393	VEGFA	
positive	0.020072531	VEGFA	
regulation of	0.020072531	EGFR	
positive	0.020072531	SRC	
erythrocyte	0.02051449	VEGFA	
regulation of	0.02051449	SRC	
regulation of	0.020956273	JUN	
regulation of	0.020956273	AKT1	
establishment of	0.021397879	AKT1	
positive	0.021397879	EGFR	
negative	0.021839308	EGFR	
regulation of	0.021839308	AKT1	
regulation of	0.021839308	EGFR	
response to	0.021839308	RELA	
regulation of	0.021839308	AKT1	
cellular defense	0.021839308	RELA	
neuron migration	0.022280559	VEGFA	
regulation of	0.022721634	SRC	
negative	0.022721634	AKT1	
ameboidal-type	0.023162532	AKT1	
regulation of	0.023162532	SRC	
negative	0.023162532	EGFR	
negative	0.023162532	SRC	
regulation of	0.023162532	SRC	
heart	0.023603253	VEGFA	
regulation of	0.023603253	EGFR	
negative	0.023663887	JUN	RELA

regulation of	0.024043797	AKT1
regulation of	0.024043797	CCND1
positive	0.024043797	VEGFA
negative	0.024484165	AKT1
positive	0.024484165	EGFR
blood vessel	0.024924356	VEGFA
positive	0.02536437	VEGFA
renal system	0.02536437	VEGFA
cellular response	0.02536437	SRC
chordate	0.025804208	VEGFA
negative	0.02624387	AKT1
positive	0.02624387	VEGFA
mitotic DNA	0.02624387	CCND1
peptidyl-	0.026683355	AKT1
positive	0.027122664	RELA
regulation of	0.027122664	SRC
negative	0.027561797	AKT1
response to	0.027561797	CREB1
negative	0.028000753	AKT1
positive	0.028000753	EGFR
cell cycle G1/S	0.028000753	CCND1
negative	0.028000753	AKT1
mitotic G1 DNA	0.028878138	CCND1
extracellular	0.029316566	MMP2
cellular	0.029316566	MMP2
peptidyl-	0.029754818	AKT1
regulation of	0.030192895	VEGFA
positive	0.030192895	AKT1
negative	0.030630795	AKT1
cell chemotaxis	0.030630795	VEGFA
cellular response	0.030630795	VEGFA
establishment of	0.03106852	EGFR

kidney	0.03106852	VEGFA
Fc-gamma	0.031506069	SRC
positive	0.031506069	AKT1
regulation of	0.031506069	AKT1
phosphatidylinos	0.031506069	AKT1
myeloid	0.031506069	VEGFA
Fc-gamma	0.031943443	SRC
positive	0.031943443	VEGFA
insulin receptor	0.032380641	AKT1
Fc receptor	0.032817663	SRC
negative	0.032817663	AKT1
regulation of	0.033254511	VEGFA
integrin-	0.033254511	SRC
actomyosin	0.033691182	SRC
establishment of	0.033691182	AKT1
cellular response	0.033691182	SRC
protein import	0.033691182	AKT1
import into	0.034127679	AKT1
positive	0.034127679	SRC
cellular response	0.034127679	MMP2
positive	0.034127679	RELA
negative	0.034564	AKT1
positive	0.035436116	VEGFA
positive	0.035871912	RELA
regulation of	0.035871912	RELA
regulation of	0.036742978	RELA
response to	0.037178249	AKT1
G1/S transition	0.037613345	CCND1
regulation of	0.038048266	AKT1
regulation of	0.038483013	VEGFA
regulation of	0.039351982	RELA
protein import	0.039351982	AKT1

negative	0.039786204	AKT1
positive	0.040654126	VEGFA
negative	0.041521351	AKT1
negative	0.041521351	AKT1
interleukin-1-	0.041521351	RELA
regulation of	0.041521351	EGFR
regulation of	0.042387879	SRC
positive	0.042820882	VEGFA
negative	0.04325371	AKT1
positive	0.043686365	VEGFA
cell-matrix	0.044118846	SRC
positive	0.044983286	AKT1
calcium-	0.044983286	EGFR
positive	0.044983286	VEGFA
regulation of	0.044983286	EGFR
cellular response	0.045415245	RELA
regulation of	0.046278643	EGFR
small GTPase	0.046710082	JUN
protein	0.046710082	AKT1
regulation of	0.048003357	AKT1
response to	0.048434102	JUN
regulation of	0.048434102	AKT1
regulation of	0.049295072	AKT1
positive	0.049725298	VEGFA

Supplementary Table S8. 63 Molecular Functions (MFs)

Term	P-value	Genes		
cAMP response	8.08E-06	JUN	CREB1	
kinase binding	3.20E-05	CCND1	SRC	EGFR
RNA polymerase	6.80E-05	JUN	CREB1	RELA
DNA-binding	8.89E-05	JUN	CREB1	RELA

ubiquitin protein	0.000182118	JUN	EGFR	RELA
ubiquitin-like	0.00021877	JUN	EGFR	RELA
DNA-binding	3.57E-04	JUN	CREB1	RELA
ATPase binding	0.000465274	SRC	EGFR	
histone	0.000753871	CCND1	RELA	
growth factor	0.000959472	SRC	VEGFA	
protein tyrosine	0.001014643	SRC	EGFR	
potassium	0.002248161	AKT1		
protein	0.002329211	AKT1	RELA	VEGFA
double-stranded	0.002489652	JUN	CREB1	EGFR
sequence-	0.003213257	JUN	CREB1	RELA
vascular	0.003594909	VEGFA		
transcription	0.0038333	JUN	RELA	
phosphate ion	0.004491844	RELA		
DNA binding	0.004644451	JUN	EGFR	RELA
phospholipase	0.004940043	SRC		
MAP kinase	0.004940043	EGFR		
vascular	0.005388063	VEGFA		
lipase activator	0.005388063	SRC		
DNA-binding	0.005536911	JUN	RELA	
platelet-derived	0.005835903	VEGFA		
BMP receptor	0.005835903	SRC		
phospholipase	0.006283564	SRC		
RNA polymerase	0.006283564	RELA		
transmembrane	0.00717835	SRC		
R-SMAD	0.008519186	JUN		
cadherin binding	0.00863266	SRC	EGFR	
transcription	0.008965774	RELA		
actinin binding	0.009412183	RELA		
ephrin receptor	0.009412183	SRC		
protein	0.009803948	AKT1	EGFR	
NF-kappaB	0.011196032	RELA		

general	0.011641548	RELA		
phosphatidylinos	0.011641548	AKT1		
RNA polymerase	0.012231311	JUN	CREB1	RELA
cis-regulatory	0.012231311	JUN	CREB1	RELA
protein	0.012532045	AKT1		
SH2 domain	0.014310901	SRC		
chemoattractant	0.014310901	VEGFA		
phosphatidylinos	0.015643173	AKT1		
non-membrane	0.015643173	SRC		
core promoter	0.016530466	RELA		
RNA polymerase	0.019283682	JUN	CREB1	RELA
cyclin-dependent	0.019630393	CCND1		
protein kinase	0.020441814	CCND1	RELA	
potassium	0.022280559	AKT1		
transcription	0.023603253	RELA		
transcription cis-	0.02382624	JUN	RELA	
transmembrane	0.026683355	EGFR		
transmembrane	0.026683355	EGFR		
metalloendopepti	0.036307532	MMP2		
sequence-	0.038092671	JUN	CREB1	
growth factor	0.038483013	VEGFA		
heme binding	0.040220253	SRC		
protein kinase	0.04325371	CCND1		
phosphatidylinos	0.044983286	AKT1		
serine-type	0.046278643	MMP2		
cytokine receptor	0.046278643	VEGFA		
kinase activity	0.049295072	AKT1		

Supplementary Table S9. 19 C

Term	P-value			
membrane raft	0.002288915	SRC	EGFR	
vesicle	0.004343344	AKT1	EGFR	

intracellular	0.004940043	EGFR		
nucleus	0.005633484	JUN	CREB1	CCND1
intracellular	0.012128463	JUN	CREB1	CCND1
focal adhesion	0.01228787	SRC	EGFR	
cell-substrate	0.012716148	SRC	EGFR	
cyclin-dependent	0.01342183	CCND1		
serine/threonine	0.016530466	CCND1		
caveola	0.026683355	SRC		
platelet alpha	0.029754818	VEGFA		
clathrin-coated	0.030630795	EGFR		
plasma	0.036307532	SRC		
nuclear	0.036742978	JUN		
clathrin-coated	0.037613345	EGFR		
clathrin-coated	0.039786204	EGFR		
platelet alpha	0.039786204	VEGFA		
nuclear lumen	0.041925255	JUN	RELA	
early endosome	0.042820882	EGFR		

Supplementary Table S10

Term	P-value			
Relaxin signaling	2.15E-17	JUN	CREB1	SRC
Chemical	3.29E-15	JUN	CREB1	CCND1
Kaposi sarcoma-	2.47E-13	JUN	CREB1	CCND1
Human	7.34E-13	CREB1	CCND1	SRC
AGE-RAGE	1.11E-12	JUN	CCND1	MMP2
Bladder cancer	3.52E-12	CCND1	SRC	MMP2
Estrogen	7.64E-12	JUN	CREB1	SRC
Fluid shear stress	8.35E-12	JUN	SRC	MMP2
Focal adhesion	7.83E-11	JUN	CCND1	SRC
Pancreatic cancer	8.63E-11	CCND1	AKT1	EGFR
Proteoglycans in	8.82E-11	CCND1	SRC	MMP2
Prostate cancer	3.00E-10	CREB1	CCND1	AKT1

Pathways in	3.07E-10	JUN	CCND1	MMP2
Human	1.58E-09	CREB1	CCND1	AKT1
PI3K-Akt	2.37E-09	CREB1	CCND1	AKT1
Hepatitis B	0.000000004	JUN	CREB1	SRC
Viral	1.25E-08	JUN	CREB1	CCND1
Epithelial cell	1.71E-08	JUN	SRC	EGFR
Prolactin	1.71E-08	CCND1	SRC	AKT1
Human T-cell	1.83E-08	JUN	CREB1	CCND1
Shigellosis	3.27E-08	JUN	SRC	AKT1
ErbB signaling	3.77E-08	JUN	SRC	AKT1
Colorectal cancer	3.95E-08	JUN	CCND1	AKT1
PD-L1	4.54E-08	JUN	AKT1	EGFR
GnRH signaling	5.42E-08	JUN	SRC	MMP2
MAPK signaling	7.97E-08	JUN	AKT1	EGFR
C-type lectin	8.52E-08	JUN	SRC	AKT1
HIF-1 signaling	0.000000103	AKT1	EGFR	RELA
TNF signaling	1.15E-07	JUN	CREB1	AKT1
Osteoclast	1.91E-07	JUN	CREB1	AKT1
Yersinia	2.58E-07	JUN	SRC	AKT1
Measles	0.000000274	JUN	CCND1	AKT1
Breast cancer	0.000000343	JUN	CCND1	AKT1
Oxytocin	4.13E-07	JUN	CCND1	SRC
Hepatitis C	4.47E-07	CCND1	AKT1	EGFR
Tuberculosis	7.72E-07	CREB1	SRC	AKT1
Cocaine	1.15E-06	JUN	CREB1	RELA
Epstein-Barr	1.22E-06	JUN	CCND1	AKT1
Rap1 signaling	1.43E-06	SRC	AKT1	EGFR
Lipid and	1.57E-06	JUN	SRC	AKT1
cAMP signaling	1.60E-06	JUN	CREB1	AKT1
Endometrial	1.92E-06	CCND1	AKT1	EGFR
VEGF signaling	2.02E-06	SRC	AKT1	VEGFA
Ras signaling	2.12E-06	AKT1	EGFR	RELA

Acute myeloid	0.000002975	CCND1	AKT1	RELA
Mitophagy	3.11E-06	JUN	SRC	RELA
Renal cell	3.25E-06	JUN	AKT1	VEGFA
Melanoma	3.70E-06	CCND1	AKT1	EGFR
Non-small cell	3.70E-06	CCND1	AKT1	EGFR
Glioma	0.000004186	CCND1	AKT1	EGFR
Chronic myeloid	0.000004357	CCND1	AKT1	RELA
B cell receptor	0.000005282	JUN	AKT1	RELA
Small cell lung	7.76E-06	CCND1	AKT1	RELA
Choline	9.38E-06	JUN	AKT1	EGFR
Chagas disease	1.06E-05	JUN	AKT1	RELA
Longevity	1.06E-05	CREB1	AKT1	RELA
T cell receptor	1.12E-05	JUN	AKT1	RELA
Toll-like receptor	1.12E-05	JUN	AKT1	RELA
Insulin resistance	1.26E-05	CREB1	AKT1	RELA
Neurotrophin	0.000016807	JUN	AKT1	RELA
AMPK signaling	0.000017234	CREB1	CCND1	AKT1
Thyroid hormone	1.77E-05	CCND1	SRC	AKT1
FoxO signaling	2.24E-05	CCND1	AKT1	EGFR
Apoptosis	2.85E-05	JUN	AKT1	RELA
Gastric cancer	3.29E-05	CCND1	AKT1	EGFR
Cushing	3.71E-05	CREB1	CCND1	EGFR
Non-alcoholic	3.71E-05	JUN	AKT1	RELA
Cellular	3.78E-05	CCND1	AKT1	RELA
JAK-STAT	4.23E-05	CCND1	AKT1	EGFR
Hepatocellular	4.71E-05	CCND1	AKT1	EGFR
Tight junction	4.80E-05	JUN	CCND1	SRC
Neutrophil	6.69E-05	SRC	AKT1	RELA
Chemokine	7.01E-05	SRC	AKT1	RELA
Pathogenic	7.57E-05	JUN	SRC	RELA
Diabetic	8.27E-05	MMP2	AKT1	RELA
Human	9.41E-05	JUN	AKT1	RELA

Coronavirus	0.000122919	JUN	EGFR	RELA
Salmonella	0.000151519	JUN	AKT1	RELA
MicroRNAs in	0.000289061	CCND1	EGFR	VEGFA
Inflammatory	0.000368941	JUN	RELA	
Adipocytokine	0.000415735	AKT1	RELA	
Amphetamine	0.000415735	JUN	CREB1	
Central carbon	0.000427863	AKT1	EGFR	
Adherens	0.000440162	SRC	EGFR	
Pertussis	0.000504225	JUN	RELA	
Leishmaniasis	0.00051755	JUN	RELA	
Gap junction	0.00067536	SRC	EGFR	
Th1 and Th2 cell	0.000737831	JUN	RELA	
Rheumatoid	0.000753871	JUN	VEGFA	
IL-17 signaling	0.00077008	JUN	RELA	
Parathyroid	9.78E-04	CREB1	EGFR	
Th17 cell	0.000996086	JUN	RELA	
Glucagon	0.000996086	CREB1	AKT1	
Toxoplasmosis	0.001090539	AKT1	RELA	
Cholinergic	0.001109929	CREB1	AKT1	
Herpes simplex	0.001152476	SRC	AKT1	RELA
Sphingolipid	0.001229757	AKT1	RELA	
Growth hormone	0.001229757	CREB1	AKT1	
Platelet	0.001334166	SRC	AKT1	
Dopaminergic	0.001509792	CREB1	AKT1	
Apelin signaling	0.001624891	CCND1	AKT1	
Phospholipase D	0.001892465	AKT1	EGFR	
Adrenergic	0.001943227	CREB1	AKT1	
Wnt signaling	0.002372547	JUN	CCND1	
cGMP-PKG	0.002400744	CREB1	AKT1	
Influenza A	0.002544125	AKT1	RELA	
NOD-like	0.002812236	JUN	RELA	
Regulation of	0.004048197	SRC	EGFR	

Calcium	0.004883387	EGFR	VEGFA
Endocytosis	0.00536992	SRC	EGFR
Alzheimer	0.011217137	AKT1	RELA
Circadian rhythm	0.013866454	CREB1	
Thyroid cancer	0.016530466	CCND1	
Vasopressin-	0.019630393	CREB1	
Carbohydrate	0.020956273	AKT1	
Regulation of	0.024484165	AKT1	
Hedgehog	0.024924356	CCND1	
Legionellosis	0.02536437	RELA	
Viral myocarditis	0.026683355	CCND1	
Cytosolic DNA-	0.028000753	RELA	
GnRH secretion	0.028439533	AKT1	
Cortisol	0.028878138	CREB1	
Fc epsilon RI	0.030192895	AKT1	
Renin secretion	0.030630795	CREB1	
RIG-I-like	0.03106852	RELA	
p53 signaling	0.032380641	CCND1	
Thyroid hormone	0.033254511	CREB1	
Bacterial	0.034127679	SRC	
Antigen	0.034564	CREB1	
Insulin secretion	0.038048266	CREB1	
GABAergic	0.039351982	SRC	
Circadian	0.042820882	CREB1	
Fc gamma R-	0.042820882	AKT1	
Aldosterone	0.04325371	CREB1	
Inflammatory	0.04325371	SRC	
Progesterone-	0.044118846	AKT1	
Melanogenesis	0.044551153	CREB1	
Amoebiasis	0.044983286	RELA	
NF-kappa B	0.045847031	RELA	

ntary Table S1. Components of *Phyllanthus niruri*

InChlKey	Canonical Smiles	Lipinski
JPUKWEQWGBDDQB-QSOFNFLRSA-N	C1=CC(=CC=C1C2=C(C(=O)C3=C(C=C(C=C3O2)O)O)OC4C(C(C(C(O4)CO)O)O)O)O	No; 2 violations: N or O >10, NH or OH >5
JFJWMFPFMLRLMI-VKHMYHEASA-N	C1C(C2=C(C1=O)OC(=O)C3=CC(=C(C(=C32)O)O)O)C(=O)O	Yes; 0 violation
XMGQYMWWDOXHJM-SNVBAGLBSA-N	CC1=CCC(CC1)C(=C)C	Yes; 0 violation
MQYXUWHLBZFQQO-QGTGJCAVSA-N	CC(=C)C1CCC2(C1C3CCC4C5(CCC(C(C5CCC4(C3(CC2)C)C)(C)C)O)C)C	Yes; 1 violation: MLOGP>4.15
OSWPMRLSEDHDFF-UHFFFAOYSA-N	COC(=O)C1=CC=CC=C1O	Yes; 0 violation
KFLQGJQSLUYUBF-WOJBJXKFSA-N	COCC(CC1=CC(=C(C=C1)OC)OC)C(CC2=CC(=C(C=C2)OC)OC)COC	Yes; 0 violation
REFJWTPEDVJJIY-UHFFFAOYSA-N	C1=CC(=C(C=C1C2=C(C(=O)C3=C(C=C(C=C3O2)O)O)O)O)O	Yes; 0 violation
OXGUCUVFOIWWQJ-HQBVPOQASA-N	CC1C(C(C(C(O1)OC2=C(OC3=CC(=CC(=C3C2=O)O)O)C4=CC(=C(C=C4)O)O)O)O)O	No; 2 violations: N or O >10, NH or OH >5
IKGXIBQEEMLURG-NVPNHPEKSA-N	CC1C(C(C(C(O1)OCC2C(C(C(C(O2)OC3=C(OC4=CC(=CC(=C4C3=O)O)O)C5=CC(=C(C=C5)O)O)O)O)O)O)O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5

AXNVHPCVMSNXNP-ZELRDNAQSA-N	CC=C(C)C(=O)OC1C(C2(C(CC1(C)C)C3=CCC4C5(CCC(C(C5CCC4(C3(CC2O)C)C)(C)CO)OC6C(C(C(C(O6)C(=O)O)OC7C(C(C(C(O7)CO)O)O)O)O)OC8C(C(C(C(O8)CO)O)O)O)C)CO)OC(=O)C	No; 3 violations: MW>500, N or O >10, NH or OH >5
LHQDZANQXMRHIV-LZJOCLMNSA-N	COCC1CC2=CC3=C(C(=C2C(C1COC)C4=CC(=C(C=C4)OC)OC)OC)OCO3	Yes; 0 violation
POYMCXRWXZAMNO-JCYKKVNTSA-N	CC1C(C(C(C(O1)OCC2C(C(C(C(O2)OC3=C(C(=C(C4=C3C(=O)CC(O4)C5=CC=C(C=C5)O)CC=C(C)C)O)O)O)O)O)O)O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5
RYZNPFYAGDHZDT-ROUUACIJSA-N	COCC(CC1=CC2=C(C(=C1)OC)OCO2)C(CC3=CC(=C(C(=C3)OC)O)OC)COC	Yes; 0 violation
KUZYDHCVYKUFKF-LPLPFJSBSA-N	CC(=O)OCC1C(C(C(C(O1)OC2(C(C(C(O2)COC(=O)C=CC3=CC=CC=C3)O)OC(=O)C=CC4=CC=CC=C4)COC(=O)C)OC(=O)C)O)OC(=O)C	No; 2 violations: MW>500, N or O >10
NQFDLHKMNTXMAG-QZTJIDSGSA-N	COCC(CC1=CC2=C(C=C1)OCO2)C(CC3=CC4=C(C=C3)OCO4)COC	Yes; 0 violation
VOXZDWNPVJITMN-ZBRFXRBCSA-N	CC12CCC3C(C1CCC2O)CCC4=C3C=CC(=C4)O	Yes; 0 violation
DDWGQGZPYDSYEL-LSDHHAIUSA-N	C1C(C(C(=O)O1)CC2=CC3=C(C=C2)OCO3)CC4=CC5=C(C=C4)OCO5	Yes; 0 violation
LBJCUHLNHSKZBW-XGHQBKJUSA-N	COCC1CC2=CC(=C3C(=C2C(C1COC)C4=CC(=C(C=C4)OC)OC)OCO3)OC	Yes; 0 violation
MMIPPOIFVHVHAK-JTUHZDRVSA-N	COCC1CC2=CC3=C(C=C2C(C1COC)C4=CC(=C(C=C4)OC)OC)OCO3	Yes; 0 violation
WBJMMHMEDGPCCD-JTUHZDRVSA-N	COCC1CC2=CC(=C(C=C2C(C1COC)C3=CC4=C(C=C3)OCO4)OC)OC	Yes; 0 violation
NBGOALXYAZVRPS-FOGDFJRCSA-N	C1CC2C34CC(N2C1)C=CC3=CC(=O)O4	Yes; 0 violation
JJPULWMQUWTWAT-BUXKBTBVSA-N	CC1C(OC2=C1C=C(C=C2OC)CCCO)C3=CC4=C(C=C3)OCO4	Yes; 0 violation

SWZMSZQQJRKFBP-UHFFFAOYSA-N	C1CCN2C(C1)C34CC2C=CC3=CC(=O)O4	Yes; 0 violation
CZZKSEXMNQGXJU-ROMRWMGNSA-N	COCC1CC2=CC(=C(C=C2C(C1COC)C3=CC(=C(C=C3)OC)OC)OC)OC	Yes; 0 violation
SWZMSZQQJRKFBP-WZRBSPASSA-N	C1CCN2C(C1)C34CC2C=CC3=CC(=O)O4	Yes; 0 violation
XNZRAIUXPDCEOA-ZDPZECHZSA-N	COCC1CC2=CC3=C(C=C2C(C1COC)C4=CC5=C(C=C4)OCO5)OCO3	Yes; 0 violation
ZYGHJZDHTFUPRJ-UHFFFAOYSA-N	C1=CC=C2C(=C1)C=CC(=O)O2	Yes; 0 violation
HVQAJTFOCKOKIN-UHFFFAOYSA-N	C1=CC=C(C=C1)C2=C(C(=O)C3=CC=CC=C3O2)O	Yes; 0 violation
JQQBXPCJFAKSPG-SVYIMCMUSA-N	C1C2C3C(C(C(O2)OC(=O)C4=CC(=C(C(=C4)O)O)O)OC(=O)C5=CC(=C(C6=C5C7C(=CC(=O)C(C7(O)O)(O6)O)C(=O)O3)O)O)OC(=O)C8=CC(=C(C(=C8C9=C(C(=C(C=C9C(=O)O1)O)O)O)O)O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5
DVBQHEGQMJLCBQ-VFBNLJSFSA-N	CC(=O)CC1(C(=O)C=C2C3C1(OC4=C3C(=CC(=C4O)O)C(=O)OC5C6COC(=O)C7=CC(=C(C(=C7C8=C(C(=C(C=C8C(=O)OC5C(C(O6)OC(=O)C9=CC(=C(C(=C9)O)O)O)OC2=O)O)O)O)O)O)O)O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5
AFSDNFLWKVMVRB-UHFFFAOYSA-N	C1=C2C3=C(C(=C1O)O)OC(=O)C4=CC(=C(C(=C43)OC2=O)O)O	Yes; 0 violation
XMOCLSLCDHWDHP-SWLSCSKDSA-N	C1C(C(OC2=CC(=CC(=C21)O)O)C3=CC(=C(C(=C3)O)O)O)O	Yes; 1 violation: NH or OH >5
VQFWNXWCQOHGRF-UHFFFAOYSA-N	COC1=CC=C(C=C1)C2=CC(=O)C3=C(O2)C=C(C(=C3O)S(=O)(=O)O)O	Yes; 0 violation
HFPZCAJZSCWRBC-UHFFFAOYSA-N	CC1=CC=C(C=C1)C(C)C	Yes; 1 violation: MLOGP>4.15

LNTHITQWFMADLM-UHFFFAOYSA-N	C1=C(C=C(C(=C1O)O)O)C(=O)O	Yes; 0 violation
MFTSECOLKFLUSD-UHFFFAOYSA-N	C1=C(C(=C(C(=C1O)O)O)C2=C(C(=C(C=C2C(=O)O)O)O)O)C(=O)O	Yes; 1 violation: NH or OH >5
JNWDNAASYHRXMG-UHFFFAOYSA-N	COC(=O)C1CC(=O)C2=C1C3=C(C(=C(C=C3C(=O)O2)O)O)O	Yes; 0 violation
RCFGIEPQSDGMJJ-OALUTQOASA-N	COCC(CC1=CC(=C(C=C1)OC)OC)C(CC2=CC3=C(C(=C2)OC)OCO3)COC	Yes; 0 violation
WUTXIOAKRFKQHK-UHFFFAOYSA-N	C1C2C(C(C(C(O2)OC(=O)C3=CC(=C(C(=C3)O)O)O)O)OC(=O)C4=CC(=C(C(=C4C5=C(C(=C(C=C5C(=O)O1)O)O)O)O)O)O)OC(=O)C(=CC(=O)O)C6C(OC(=O)C7=CC(=C(C(=C67)O)O)O)C(=O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5
TUSDEZXZIZRFGC-XIGLUPEJSA-N	C1C2C(C(C(C(O2)OC(=O)C3=CC(=C(C(=C3)O)O)O)O)OC(=O)C4=CC(=C(C(=C4C5=C(C(=C(C=C5C(=O)O1)O)O)O)O)O)O)OC(=O)C(=CC(=O)O)C6C(OC(=O)C7=CC(=C(C(=C67)O)O)O)C(=O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5
WQLVFSAGQJTQCK-VKROHFNGSA-N	CC1CCC2(C(C3C(O2)CC4C3(CCC5C4CC=C6C5(CCC(C6)O)C)C)C)OC1	Yes; 1 violation: MLOGP>4.15
YKLWRYOORWTCQQ-ZXRVKKJVSA-N	COC1CCN2C(C1)C34CC2C=CC3=CC(=O)O4	Yes; 0 violation
GDVRUDXLQBVIKP-HQHREHCSSA-N	C1=C(C=C(C(=C1O)O)O)C(=O)OC2C(C(C(C(O2)CO)O)O)O	Yes; 1 violation: NH or OH >5

WXECVBMGZXQIIU-KFJNVFKXSA-N	C1=C(C=C(C(=C1O)O)O)C(=O)OC2C(C(C(C(O2)COC(=O)C3=CC(=C(C4=C3C5=C(C(=C(C=C5C(=O)O4)O)O)O)O)O)O)O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5
CGNVIRPGBUXJES-UHFFFAOYSA-N	CCCCCCCCCCCCCCCCCCCCCCCCCCCC=O	Yes; 1 violation: MLOGP>4.15
OVSQVDMCBVZWGM-QSOFNFLRSA-N	C1=CC(=C(C=C1C2=C(C(=O)C3=C(C=C(C=C3O2)O)O)OC4C(C(C(C(O4)CO)O)O)O)O)O	No; 2 violations: N or O >10, NH or OH >5
PFTAWBLQPZVEMU-DZGCQCFKSA-N	C1C(C(OC2=CC(=CC(=C21)O)O)C3=CC(=C(C=C3)O)O)O	Yes; 0 violation
IYMHVUYNBVWXKH-ZITZVVOASA-N	C1C2C(C3C(C(O2)O)OC(=O)C4=CC(=C(C(=C4C5=C(C(=C(C=C5C(=O)O3)O)O)O)O)O)O)OC(=O)C6=CC(=C(C(=C6C7=C(C(=C(C=C7C(=O)O1)O)O)O)O)O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5
HGJXAVROWQLCTP-UHFFFAOYSA-N	C1C2C3C(C(C(O2)OC(=O)C4=CC(=C(C(=C4)O)O)O)OC(=O)C5=CC(=C(C6=C5C(C(C(=O)O3)CC(=O)O)C(C(=O)O6)O)O)O)OC(=O)C7=CC(=C(C(=C7C8=C(C(=C(C=C8C(=O)O1)O)O)O)O)O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5
KZJWDPNRJALLNS-VJSFXXLFSA-N	CCC(CCC(C)C1CCC2C1(CCC3C2CC=C4C3(CCC(C4)O)C)C)C(C)C	Yes; 1 violation: MLOGP>4.15
KTZDZZQLJUYTES-BBIYZJLNSA-N	CC1C(C(C(C(O1)OC2=CC=C(C=C2)C3=C(C(=O)C4=C(C=C(C=C4O3)O)O)O)O)O)O	Yes; 1 violation: NH or OH >5
AYURXOXPTWHCEY-VCIDSBBDSA-N	C1=CC(=C(C=C1C2=C(C(=O)C3=C(O2)C=C(C=C3)O)O)O)OC4C(C(C(C(O4)CO)O)O)O	No; 2 violations: N or O >10, NH or OH >5
JMVXRLMOIOTWSB-PFZAOBAISA-N	CC1C(C(C(C(O1)OC2=CC(=C3C(=O)CC(OC3=C2)C4=CC(=C(C=C4)O)O)O)O)O)O	Yes; 1 violation: NH or OH >5

WTUGFBFFNZHNEK-HWCLQQTBSA-N	COC1CC2C34CC(N2C1)C=CC3=CC(=O)O4	Yes; 0 violation
KZEYIYXACMUTRM-WIMKJKQSSA-N	C1C(C(OC(=O)C2=CC(=C(C(=C2C3=C(C(=C(C=C3C(=O)O1)O)O)O)O)O)O)C(C(C(=O)O)OC(=O)C4=CC(=C(C(=C4O)O)O)O)OC(	No; 3 violations: MW>500, N or O >10, NH or OH >5
KUZYDHCVYKUFKF-LPLPFJSBSA-N	CC(=O)OCC1C(C(C(C(O1)OC2(C(C(C(O2)COC(=O)C=CC3=CC=CC=C3)O)OC(=O)C=CC4=CC=CC=C4)COC(=O)C)OC(=O)C)O)OC(=O)C	No; 2 violations: MW>500, N or O >10
WKRKXTOYTASIOP-YPUOWVPESA-N	COC1=CC(=CC(=C1O)OC)C=CC(=O)OC2C(CC(CC2O)(C(=O)O)O)O	Yes; 0 violation
DJXURFUTIYZESV-BQYLRUKMSA-N	COC1=C(C=CC(=C1)C=CC(=O)OC2CC(CC(C2O)O)(C(=O)O)OC(=O)C=CC3=CC(=C(C=C3)O)O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5
ILXISCCVBSLKSX-SUFHHTCNSA-N	C1C(C(C(C(O1)OCC2C(C(C(C(O2)OC3=CC(=CC(=C3C(=O)CCC4=CC(=C(C=C4)O)O)O)O)O)O)O)O)O)O	No; 3 violations: MW>500, N or O >10, NH or OH >5
VPDBTIFHPUYJJJ-HGUAOMBGSA-N	COC1=C(C=CC(=C1)CC(CO)C(CO)C(C2=CC(=C(C=C2)O)OC)O)O	Yes; 0 violation
JTHPLBUVRLOJBB-KCILRPRFSA-N	COC1=CC(=CC2=C1OC(C2C(=O)O)C3=CC(=C(C=C3)O)OC)C=CC(=O)O	Yes; 0 violation
VWQNTRNACRFUCQ-DUXPYHPUSA-N	C1=CC(=C(C=C1C=CC(=O)O)OS(=O)(=O)O)O	Yes; 0 violation
HBXXDBKJLPLXPR-ZFVIQDPVSA-O	CC(=O)OCC1C(C(C(C(O1)OC2=CC3=C(C=C(C=C3[O+]=C2C4=CC(=C(C=C4)O)O)O)O)O)O)O	No; 2 violations: N or O >10, NH or OH >5

References

Dr. Duke’s; PubChem; TCMSP; SwissADME

Literature; Dr. Duke’s; PubChem; TCMSP; SwissADME

Dr. Duke’s; PubChem; TCMSP; SwissADME

Literature; Dr. Duke’s; PubChem; TCMSP; SwissADME

KNApSAcK; Literature; BATMAN-TCM; Dr. Duke’s; PubChem; TCMSP; SwissADME

Literature; Dr. Duke’s; PubChem; TCMSP; SwissADME	
KNApSAcK; Literature; BATMAN-TCM; PubChem; SwissADME	
Literature; BATMAN-TCM; PubChem; SwissADME	
Literature; PubChem; SwissADME	**Supplementary Table S2**
Literature; PubChem; TCMSP; SwissADME	**Mol ID** **Molecule Name**

KNApSAcK; Literature; PubChem; TCMSP; SwissADME	MOL010893	Brevioflin carboxylic acid/(1S)-7,8,9-trihydroxy-3,5-dioxo-1,2-dihydrocyclopenta[c]isochromene-1-carboxylic acid
KNApSAcK; Literature; PubChem; SwissADME	MOL000234	L-Limonen/limonene/terpenes
Literature; PubChem; SwissADME	MOL000356	Lupeol
Literature; PubChem; SwissADME	MOL000719	Methyl salicylate

Literature; PubChem; SwissADME	MOL006812	Phyllanthin
Literature; PubChem; SwissADME	MOL000098	Quercetin
Literature; PubChem; SwissADME		Nirtetralin
Literature; PubChem; SwissADME		Nirphyllin

Literature; PubChem; SwissADME		Cubebin dimethyl ether
Literature; PubChem; SwissADME	MOL010919	17-beta-estradiol
Literature; PubChem; TCMSP; SwissADME	MOL002005	Hinokinin
Literature; PubChem; TCMSP; SwissADME		Hypophyllanthin
Literature; PubChem; TCMSP; SwissADME		Isolintetralin

Literature; PubChem; TCMSP; SwissADME	Lintetralin
Literature; PubChem; SwissADME	Norsecurinine
Literature; PubChem; TCMSP; SwissADME	Phyllnirurin
KNApSAcK; Literature; PubChem; TCMSP; SwissADME	Phyllochrysine
Literature; PubChem; TCMSP; SwissADME	Phyltetralin

ChEBI; Literature; PubChem; SwissADME		Securinine
KNApSAcK; Literature; PubChem; SwissADME		Urinatetralin
Literature; PubChem; TCMSP; SwissADME	MOL000431	Coumarin
Literature; PubChem; SwissADME	MOL010246	Flavonol
KNApSAcK; Literature; PubChem; TCMSP; SwissADME	MOL001002	Ellagic acid

ChEBI; Literature; PubChem; SwissADME	MOL002249	Gallocatechin
Literature; PubChem; TCMSP; SwissADME		Niruriflavone
KNApSAcK; PubChem; TCMSP; SwissADME	MOL000117	Cymol/p-cymene
KNApSAcK; PubChem; SwissADME	MOL000513	3,4,5-trihydroxybenzoic acid/gallic acid
KNApSAcK; PubChem; TCMSP; SwissADME	MOL006179	2-(6-carboxy-2,3,4-trihydroxyphenyl)-3,4,5-trihydroxybenzoic acid/HHDP/Hexahydroxyldiphenoyl

KNApSAcK; PubChem; SwissADME		Methyl brevifolincarboxylate
ChEBI; PubChem; SwissADME		Niranthin
ChEBI; PubChem; SwissADME	MOL000546	Diosgenin
ChEBI; PubChem; SwissADME		Phyllanthine
ChEBI; PubChem; SwissADME	MOL006832	beta-Glucogallin

	Triacontanal
MOL000492	(+)-catechin
MOL000358	beta-Sitosterol
	Kaempferol 4'-rhamnoside
MOL012430	Eriodictin

4-Methoxynorsecurinine

4-sinapoylquinic acid

7-
hydroxysecoisolariciresinol

8,5'-diferulic acid/(+)-Dca-
CC

Caffeic acid 3-sulfate

of *Phyllanthus niruri* and their potential targets
n)

Target Name	Protein Name	Source
PTPN1	Tyrosine-protein phosphatase non-receptor type 1	SEA
GPBAR1	G-protein coupled bile acid receptor 1	SEA
RELA	Transcription factor p65	SEA
AKR1B10	Aldo-keto reductase family 1 member B10	SEA
F3	Tissue factor	SEA
CA14	Carbonic anhydrase 14	SEA
CA7	Carbonic anhydrase 7	SEA
CA9	Carbonic anhydrase 9	SEA
CA12	Carbonic anhydrase 12	SEA
CA1	Carbonic anhydrase 1	SEA
NCOA1	Nuclear receptor coactivator 1	SEA
CA2	Carbonic anhydrase 2	SEA
MPO	Myeloperoxidase	SEA
MAPK10	Mitogen-activated protein kinase 10	SEA
NOX4	NADPH oxidase 4	SEA

NCOA3	Nuclear receptor coactivator 3	SEA
ALOX15	Polyunsaturated fatty acid lipoxygenase ALOX15	SEA
ELAVL3	ELAV-like protein 3	SEA
CYP1B1	Cytochrome P450 1B1	SEA; Swiss
XDH	Xanthine dehydrogenase/oxidase	SEA; Swiss
NOX4	NADPH oxidase 4	SEA; Swiss
GLO1	Lactoylglutathione lyase	SEA; Swiss
CYP2C8	Cytochrome P450 2C8	SEA
DAPK1	Death-associated protein kinase 1	SEA; Swiss
NEK6	Serine/threonine-protein kinase Nek6	SEA; Swiss
ALOX5	Polyunsaturated fatty acid 5-lipoxygenase	SEA; Swiss
ELAVL1	ELAV-like protein 1	SEA
ABCG2	Broad substrate specificity ATP-binding cassette transporter ABCG2	SEA; Swiss
CA4	Carbonic anhydrase 4	SEA; Swiss
CCR4	C-C chemokine receptor type 4	SEA
ABCC1	Multidrug resistance-associated protein 1	SEA; Swiss
PKN1	Serine/threonine-protein kinase N1	SEA; Swiss
MAOA	Amine oxidase [flavin-containing] A	SEA; Swiss
CA7	Carbonic anhydrase 7	SEA; Swiss
NUAK1	NUAK family SNF1-like kinase 1	SEA; Swiss
ALOX12	Polyunsaturated fatty acid lipoxygenase ALOX12	SEA; Swiss
CYP1A1	Cytochrome P450 1A1	SEA
AKR1B1	Aldo-keto reductase family 1 member B1	SEA; Swiss
GPR35	G-protein coupled receptor 35	SEA; Swiss
CA3	Carbonic anhydrase 3	SEA; Swiss
ALOX15	Polyunsaturated fatty acid lipoxygenase ALOX15	SEA; Swiss

MPO	Myeloperoxidase	SEA; Swiss
HSD17B2	Estradiol 17-beta-dehydrogenase 2	SEA; Swiss
APP	Amyloid-beta precursor protein	SEA
CA12	Carbonic anhydrase 12	SEA; Swiss
PLA2G1B	Phospholipase A2	SEA; Swiss
CAMK2B	Calcium/calmodulin-dependent protein kinase type II subunit beta	SEA; Swiss
CA6	Carbonic anhydrase 6	SEA; Swiss
CA5A	Carbonic anhydrase 5A, mitochondrial	SEA; Swiss
CXCR1	C-X-C chemokine receptor type 1	SEA; Swiss
AXL	Tyrosine-protein kinase receptor UFO	SEA; Swiss
NEK2	Serine/threonine-protein kinase Nek2	SEA; Swiss
CDK1	Cyclin-dependent kinase 1	SEA; Swiss
CSNK2A1	Casein kinase II subunit alpha	SEA; Swiss
FLT3	Receptor-type tyrosine-protein kinase FLT3	SEA; Swiss
PYGL	Glycogen phosphorylase, liver form	SEA; Swiss
CA14	Carbonic anhydrase 14	SEA; Swiss
AVPR2	Vasopressin V2 receptor	SEA; Swiss
CA2	Carbonic anhydrase 2	SEA; Swiss
CYP1A2	Cytochrome P450 1A2	SEA
MMP9	Matrix metalloproteinase-9	SEA; Swiss
AURKB	Aurora kinase B	SEA; Swiss
GSK3B	Glycogen synthase kinase-3 beta	SEA; Swiss
BACE1	Beta-secretase 1	SEA; Swiss
PIK3R1	Phosphatidylinositol 3-kinase regulatory subunit alpha	SEA; Swiss
CA9	Carbonic anhydrase 9	SEA; Swiss
ALK	ALK tyrosine kinase receptor	SEA; Swiss
DPP4	Dipeptidyl peptidase 4	SEA
PIM1	Serine/threonine-protein kinase pim-1	SEA; Swiss
PTK2	Focal adhesion kinase 1	SEA; Swiss

CYP2C9	Cytochrome P450 2C9	SEA
AKT1	RAC-alpha serine/threonine-protein kinase	SEA; Swiss
MMP3	Stromelysin-1	SEA; Swiss
IGF1R	Insulin-like growth factor 1 receptor	SEA; Swiss
MMP2	72 kDa type IV collagenase	SEA; Swiss
MET	Hepatocyte growth factor receptor	SEA; Swiss
DRD4	D(4) dopamine receptor	SEA; Swiss
MMP13	Collagenase 3	SEA; Swiss
BRAF	Serine/threonine-protein kinase B-raf	SEA
EGFR	Epidermal growth factor receptor	SEA; Swiss
CA1	Carbonic anhydrase 1	SEA; Swiss
F2	Prothrombin	SEA; Swiss
KDR	Vascular endothelial growth factor receptor 2	SEA; Swiss
PTPRS	Receptor-type tyrosine-protein phosphatase S	SEA; Swiss
P4HB	Protein disulfide-isomerase	SEA
MPG	DNA-3-methyladenine glycosylase	SEA; Swiss
ST6GAL1	Beta-galactoside alpha-2,6-sialyltransferase 1	SEA
ABCB1	ATP-dependent translocase ABCB1	SEA; Swiss
KDM4E	Lysine-specific demethylase 4E	SEA; Swiss
ALPI	Intestinal-type alkaline phosphatase	SEA
MAPT	Microtubule-associated protein tau	SEA; Swiss
TTR	Transthyretin	SEA
AKR1B10	Aldo-keto reductase family 1 member B10	SEA
MYLK	Myosin light chain kinase, smooth muscle	SEA; Swiss
CYP19A1	Cytochrome P450 19A1	Swiss
ADORA1	Adenosine A1 receptor	Swiss
ADORA2A	Adenosine A2a receptor	Swiss
SRC	Tyrosine-protein kinase SRC	Swiss
PLK1	Serine/threonineprotein kinase PLK1	Swiss
AKR1C2	Aldo-keto reductase family 1 member C2	Swiss
AKR1C1	Aldo-keto reductase family 1 member C1	Swiss

AKR1C3	Aldo-keto-reductase family 1 member C3	Swiss
AKR1C4	Aldo-keto-reductase family 1 member C4	Swiss
CA13	Carbonic anhydrase XIII	Swiss
AKR1A1	Aldehyde reductase	Swiss
TOP2A	DNA topoisomerase 2-alpha	Swiss
INSR	Insulin receptor	Swiss
ACHE	Acetylcholinesterase	Swiss
SYK	Tyrosine-protein kinase SYK	Swiss
PIK3CG	PI3-kinase p110-gamma subunit	Swiss
APEX1	DNA-(apurinic or apyrimidinic site) lyase	Swiss
ESR2	Estrogen receptor beta	Swiss
SLC22A12	Solute carrier family 22 member 12	Swiss
CDK5R1	Cyclin-dependent kinase 5 activator 1	Swiss
CDK5	Cyclin-dependent-like kinase 5	Swiss
CCNB3	G2/mitotic-specific cyclin-B3	Swiss
CCNB1	G2/mitotic-specific cyclin-B1	Swiss
CCNB2	G2/mitotic-specific cyclin-B2	Swiss
ARG1	Arginase-1	Swiss
ESR1	Estrogen receptor	Swiss; SEA
ESR2	Estrogen receptor beta	Swiss; SEA
SHBG	Sex hormone-binding globulin	Swiss; SEA
AR	Androgen receptor	Swiss; SEA
CYP19A1	Aromatase	Swiss; SEA
SLC6A4	Sodium-dependent serotonin transporter	Swiss; SEA

ESRRA	Steroid hormone receptor ERR1	Swiss; SEA
ESRRB	Steroid hormone receptor ERR2	Swiss
GPER1	G-protein coupled estrogen receptor 1	Swiss
SERPINA6	Corticosteroid-binding globulin	SEA
GPER1	G-protein coupled estrogen receptor 1	SEA
SLC22A3	Solute carrier family 22 member 3	SEA
SLC22A1	Solute carrier family 22 member 1	SEA
CYP1B1	Cytochrome P450 1B1	SEA
STS	Steryl-sulfatase	SEA
HSD17B1	17-beta-hydroxysteroid dehydrogenase type 1	SEA
ADCY10	Adenylate cyclase type 10	SEA
AKR1C3	Aldo-keto reductase family 1 member C3	SEA
SLCO1B1	Solute carrier organic anion transporter family member 1B1	SEA
ABCC4	ATP-binding cassette sub-family C member 4	SEA
ABCC1	Multidrug resistance-associated protein 1	SEA

SRD5A1	3-oxo-5-alpha-steroid 4-dehydrogenase 1	SEA
SRD5A2	3-oxo-5-alpha-steroid 4-dehydrogenase 2	SEA
SLC6A2	Sodium-dependent noradrenaline transporter	Swiss; SEA
SLC6A3	Sodium-dependent dopamine transporter	Swiss; SEA
CA2	Carbonic anhydrase 2	Swiss; SEA
CA7	Carbonic anhydrase 7	Swiss; SEA
CA1	Carbonic anhydrase 1	Swiss; SEA
CA3	Carbonic anhydrase 3	Swiss; SEA
CA6	Carbonic anhydrase 6	Swiss; SEA
CA12	Carbonic anhydrase 12	Swiss; SEA
CA14	Carbonic anhydrase 14	Swiss; SEA
CA9	Carbonic anhydrase 9	Swiss; SEA
CA4	Carbonic anhydrase 4	Swiss; SEA
CA13	Carbonic anhydrase 13	Swiss
CA5B	Carbonic anhydrase 5B, mitochondrial	Swiss; SEA

CA5A	Carbonic anhydrase 5A, mitochondrial	Swiss; SEA
PGR	Progesterone receptor	SEA
DRD4	D(4) dopamine receptor	SEA
CA2	Carbonic anhydrase 2	Swiss; SEA
CA1	Carbonic anhydrase 1	Swiss; SEA
CA12	Carbonic anhydrase 12	Swiss; SEA
CA9	Carbonic anhydrase 9	Swiss; SEA
CYP1B1	Cytochrome P450 1B1	SEA
ABCB1	ATP-dependent translocase ABCB1	SEA
NQO1	NAD(P)H dehydrogenase [quinone] 1	SEA
ST6GAL1	Beta-galactoside alpha-2,6-sialyltransferase 1	SEA
ABCG2	Broad substrate specificity ATP-binding cassette transporter ABCG2	SEA
MAOA	Amine oxidase [flavin-containing] A	SEA
XDH	Xanthine dehydrogenase/oxidase	SEA
MAOB	Amine oxidase [flavin-containing] B	SEA

GPR35	G-protein coupled receptor 35	Swiss; SEA
ERBB2	Receptor tyrosine-protein kinase erbB-2	Swiss; SEA
AKR1B1	Aldo-keto reductase family 1 member B1	Swiss; SEA
CCND1	G1/S-specific cyclin-D1	Swiss; SEA
CDK4	Cyclin-dependent kinase 4	Swiss; SEA
PDGFRB	Platelet-derived growth factor receptor beta	Swiss; SEA
FLT4	Vascular endothelial growth factor receptor 3	Swiss; SEA
IGF1R	Insulin-like growth factor 1 receptor	Swiss; SEA
INSR	Insulin receptor	Swiss; SEA
EGFR	Epidermal growth factor receptor	Swiss; SEA
CA2	Carbonic anhydrase 2	Swiss; SEA
CDK2	Cyclin-dependent kinase 2	Swiss; SEA
CCNA1	Cyclin-A1	Swiss; SEA
CCNA2	Cyclin-A2	Swiss; SEA
AURKB	Aurora kinase B	Swiss; SEA

CA7	Carbonic anhydrase 7	Swiss; SEA
CA1	Carbonic anhydrase 1	Swiss; SEA
GSK3B	Glycogen synthase kinase-3 beta	Swiss; SEA
SRC	Proto-oncogene tyrosine-protein kinase Src	Swiss; SEA
PTK2	Focal adhesion kinase 1	Swiss; SEA
KDR	Vascular endothelial growth factor receptor 2	Swiss; SEA
PLK1	Serine/threonine-protein kinase PLK1	Swiss; SEA
CA6	Carbonic anhydrase 6	Swiss; SEA
CA12	Carbonic anhydrase 12	Swiss; SEA
CA14	Carbonic anhydrase 14	Swiss; SEA
CA9	Carbonic anhydrase 9	Swiss; SEA
CSNK2A1	Casein kinase II subunit alpha	Swiss; SEA
MET	Hepatocyte growth factor receptor	Swiss; SEA
CA4	Carbonic anhydrase 4	Swiss; SEA
PLK4	Serine/threonine-protein kinase PLK4	Swiss; SEA

CA13	Carbonic anhydrase 13	Swiss; SEA
TEK	Angiopoietin-1 receptor	Swiss; SEA
AKT1	RAC-alpha serine/threonine-protein kinase	Swiss; SEA
AURKA	Aurora kinase A	Swiss; SEA
CA5A	Carbonic anhydrase 5A, mitochondrial	Swiss; SEA
BACE1	Beta-secretase 1	Swiss; SEA
MAP3K8	Mitogen-activated protein kinase kinase kinase 8	Swiss; SEA
BRAF	Serine/threonine-protein kinase B-raf	Swiss; SEA
EPHB4	Ephrin type-B receptor 4	Swiss; SEA
HSPA1A	Heat shock 70 kDa protein 1A	Swiss; SEA
NUAK1	NUAK family SNF1-like kinase 1	Swiss; SEA
SQLE	Squalene monooxygenase	Swiss
FGR	Tyrosine-protein kinase Fgr	Swiss
LYN	Tyrosine-protein kinase Lyn	Swiss
POLI	DNA polymerase iota	SEA

ELAVL3	ELAV-like protein 3	SEA
POLH	DNA polymerase eta	SEA
SMAD3	Mothers against decapentaplegic homolog 3	SEA
SLC22A6	Solute carrier family 22 member 6	SEA
ATG4B	Cysteine protease ATG4B	SEA
MIF	Macrophage migration inhibitory factor	SEA
TNNC1	Troponin C, slow skeletal and cardiac muscles	SEA
TNNI3	Troponin I, cardiac muscle	SEA
TNNT2	Troponin T, cardiac muscle	SEA
APEX1	DNA-(apurinic or apyrimidinic site) endonuclease	SEA
BACE1	Beta-secretase 1	SEA
FUT4	Alpha-(1,3)-fucosyltransferase 4	SEA
PGD	6-phosphogluconate dehydrogenase, decarboxylating	SEA
ST3GAL3	CMP-N-acetylneuraminate-beta-1,4-galactoside alpha-2,3-sialyltransferase	SEA
ELAVL3	ELAV-like protein 3	SEA

PGAM1	Phosphoglycerate mutase 1	SEA
FUT7	Alpha-(1,3)-fucosyltransferase 7	SEA
CA3	Carbonic anhydrase 3	SEA
CREB1	Cyclic AMP-responsive element-binding protein 1	SEA
PTPRS	Receptor-type tyrosine-protein phosphatase S	SEA
CYP1B1	Cytochrome P450 1B1	SEA
AMY1A	Alpha-amylase 1A	SEA
KCND3	Potassium voltage-gated channel subfamily D member 3	SEA
XDH	Xanthine dehydrogenase/oxidase	SEA
ABCG2	Broad substrate specificity ATP-binding cassette transporter ABCG2	SEA
ABCB1	ATP-dependent translocase ABCB1	SEA
GRK6	G protein-coupled receptor kinase 6	SEA
ALOX12	Polyunsaturated fatty acid lipoxygenase ALOX12	SEA
ALOX15	Polyunsaturated fatty acid lipoxygenase ALOX15	SEA
NAE1	NEDD8-activating enzyme E1 regulatory subunit	SEA

MAOB	Amine oxidase [flavin-containing] B	SEA
MAOA	Amine oxidase [flavin-containing] A	SEA
KDM4E	Lysine-specific demethylase 4E	SEA
CA2	Carbonic anhydrase 2	Swiss
CA7	Carbonic anhydrase 7	Swiss; SEA
CA1	Carbonic anhydrase 1	Swiss; SEA
CA3	Carbonic anhydrase 3	Swiss; SEA
CA6	Carbonic anhydrase 6	Swiss; SEA
CA12	Carbonic anhydrase 12	Swiss; SEA
CA14	Carbonic anhydrase 14	Swiss; SEA
CA9	Carbonic anhydrase 9	Swiss; SEA

FUT7	Alpha-(1,3)-fucosyltransferase 7	Swiss; SEA
CA4	Carbonic anhydrase 4	Swiss; SEA
CA5B	Carbonic anhydrase 5B, mitochondrial	Swiss; SEA
CA5A	Carbonic anhydrase 5A, mitochondrial	Swiss; SEA
CA13	Carbonic anhydrase 13	Swiss
DPP4	Dipeptidyl peptidase 4	SEA
SERPINE1	Plasminogen activator inhibitor 1	SEA
POLB	DNA polymerase beta	SEA
POLA1	DNA polymerase alpha catalytic subunit	SEA
CYP17A1	Steroid 17-alpha-hydroxylase/17,20 lyase	SEA
EBP	3-beta-hydroxysteroid-Delta(8),Delta(7)-isomerase	SEA

IL2	Interleukin-2	SEA
CYP19A1	Aromatase	SEA
AKR1B1	Aldo-keto reductase family 1 member B1	Swiss; SEA
AMY1A	Alpha-amylase 1A	SEA
SERPINE1	Plasminogen activator inhibitor 1	SEA
ADH7	All-trans-retinol dehydrogenase [NAD(+)] ADH7	SEA
ADH1B	All-trans-retinol dehydrogenase [NAD(+)] ADH1B	SEA
ADH1A	Alcohol dehydrogenase 1A	SEA
FAAH	Fatty-acid amide hydrolase 1	SEA
CA3	Carbonic anhydrase 3	SEA
CA4	Carbonic anhydrase 4	SEA
CA5B	Carbonic anhydrase 5B, mitochondrial	SEA
CA6	Carbonic anhydrase 6	SEA
CA7	Carbonic anhydrase 7	SEA
CA5A	Carbonic anhydrase 5A, mitochondrial	SEA

ALPL	Alkaline phosphatase, tissue-nonspecific isozyme	SEA
CA12	Carbonic anhydrase 12	SEA
CA9	Carbonic anhydrase 9	SEA
CA1	Carbonic anhydrase 1	SEA
CA2	Carbonic anhydrase 2	SEA
PGF	Placenta growth factor	SEA
PGD	6-phosphogluconate dehydrogenase, decarboxylating	SEA
ELAVL3	ELAV-like protein 3	SEA
VEGFA	Vascular endothelial growth factor A	SEA
HMGCR	3-hydroxy-3-methylglutaryl-coenzyme A reductase	Swiss
CYP51A1	Lanosterol 14-alpha demethylase	Swiss
AR	Androgen receptor	Swiss
NPC1L1	NPC1-like intracellular cholesterol transporter 1	Swiss; SEA
NR1H3	Oxysterols receptor LXR-alpha	Swiss
CYP17A1	Steroid 17-alpha-hydroxylase/17,20 lyase	Swiss; SEA

F2	Prothrombin	SEA
DHCR24	Delta(24)-sterol reductase	SEA
CRYAB	Alpha-crystallin B chain	SEA
SRD5A2	3-oxo-5-alpha-steroid 4-dehydrogenase 2	SEA
SHBG	Sex hormone-binding globulin	SEA
SERPINA6	Corticosteroid-binding globulin	SEA
FGF2	Fibroblast growth factor 2	SEA
NR1H3	Oxysterols receptor LXR-alpha	SEA
G6PD	Glucose-6-phosphate 1-dehydrogenase	SEA
POLA1	DNA polymerase alpha catalytic subunit	SEA
RORA	Nuclear receptor ROR-alpha	SEA
SREBF2	Sterol regulatory element-binding protein 2	SEA
EPHA7	Ephrin type-A receptor 7	SEA
EPHA5	Ephrin type-A receptor 5	SEA
EPHA8	Ephrin type-A receptor 8	SEA

EPHB3	Ephrin type-B receptor 3	SEA
EPHA4	Ephrin type-A receptor 4	SEA
EPHA1	Ephrin type-A receptor 1	SEA
EPHB1	Ephrin type-B receptor 1	SEA
EPHA6	Ephrin type-A receptor 6	SEA
EPHB2	Ephrin type-B receptor 2	SEA
EPHA2	Ephrin type-A receptor 2	SEA
EPHB6	Ephrin type-B receptor 6	SEA
CYP19A1	Aromatase	SEA
EPHA3	Ephrin type-A receptor 3	SEA
NR1H2	Oxysterols receptor LXR-beta	SEA
RORC	Nuclear receptor ROR-gamma	SEA
ELAVL3	ELAV-like protein 3	SEA
P4HB	Protein disulfide-isomerase	SEA
CYP1B1	Cytochrome P450 1B1	SEA

XDH	Xanthine dehydrogenase/oxidase	SEA
NMUR2	Neuromedin-U receptor 2	SEA
NOX4	NADPH oxidase 4	SEA
RPS6KA3	Ribosomal protein S6 kinase alpha-3	SEA
GLO1	Lactoylglutathione lyase	SEA
ABCG2	Broad substrate specificity ATP-binding cassette transporter ABCG2	SEA
DAPK1	Death-associated protein kinase 1	SEA
CYP2C8	Cytochrome P450 2C8	SEA
CA4	Carbonic anhydrase 4	SEA
NEK6	Serine/threonine-protein kinase Nek6	SEA
ABCB1	ATP-dependent translocase ABCB1	SEA
CA7	Carbonic anhydrase 7	SEA
ELAVL1	ELAV-like protein 1	SEA
ALPI	Intestinal-type alkaline phosphatase	SEA
AKR1B1	Aldo-keto reductase family 1 member B1	SEA

ABCC1	Multidrug resistance-associated protein 1	SEA
ALOX5	Polyunsaturated fatty acid 5-lipoxygenase	SEA
PKN1	Serine/threonine-protein kinase N1	SEA
GPR35	G-protein coupled receptor 35	SEA
NUAK1	NUAK family SNF1-like kinase 1	SEA
CYP1A1	Cytochrome P450 1A1	SEA
KDM4E	Lysine-specific demethylase 4E	SEA
CA12	Carbonic anhydrase 12	SEA
MAOA	Amine oxidase [flavin-containing] A	SEA
TAS2R31	Taste receptor type 2 member 31	SEA
CYP1B1	Cytochrome P450 1B1	SEA
CYP19A1	Aromatase	SEA
APP	Amyloid-beta precursor protein	SEA
AKR1B10	Aldo-keto reductase family 1 member B10	SEA
FOS	Protein c-Fos	SEA

ALOX15	Polyunsaturated fatty acid lipoxygenase ALOX15	SEA
TTR	Transthyretin	SEA
JUN	Transcription factor Jun	SEA
CA6	Carbonic anhydrase 6	SEA
CA5A	Carbonic anhydrase 5A, mitochondrial	SEA
CA7	Carbonic anhydrase 7	SEA
ESR1	Estrogen receptor	SEA
PTGES	Prostaglandin E synthase	SEA
CA14	Carbonic anhydrase 14	SEA
APP	Amyloid-beta precursor protein	SEA
CA6	Carbonic anhydrase 6	SEA
NFE2L2	Nuclear factor erythroid 2-related factor 2	SEA
CA5A	Carbonic anhydrase 5A, mitochondrial	SEA
CA5B	Carbonic anhydrase 5B, mitochondrial	SEA

CA14	Carbonic anhydrase 14	SEA
CA7	Carbonic anhydrase 7	SEA
CA3	Carbonic anhydrase 3	SEA
MMP9	Matrix metalloproteinase-9	SEA
MMP1	Interstitial collagenase	SEA
MMP2	72 kDa type IV collagenase	SEA
ALOX5	Polyunsaturated fatty acid 5-lipoxygenase	SEA
CA12	Carbonic anhydrase 12	SEA
CA9	Carbonic anhydrase 9	SEA

Keyword
Hepatoprotective
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Hepatoprotective
Antihepatotoxic

Closeness (CC)
0.44927537
0.43661973
0.42465752
0.4189189

0.4189189
0.41333333
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0.3875
0.3875
0.37349397
0.37804878
0.35632184
0.3647059
0.3690476
0.3604651
0.37349397
0.3690476
0.3483146
0.3647059
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0.30097088
0.29245284
0.31958762
0.26271185
0.30097088
0.30097088
0.03125
0.3625855

Biological Processess (BPs)

Genes

EGFR
EGFR VEGFA
RELA

AKT1 RELA VEGFA
RELA

EGFR RELA

EGFR RELA VEGFA

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RELA VEGFA
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EGFR RELA VEGFA

EGFR RELA VEGFA

VEGFA

RELA

Cellular Components (CCs)
Genes

AKT1	EGFR	RELA
AKT1	EGFR	RELA

. 139 KEGG Pathways

Genes		
MMP2	AKT1	EGFR
SRC	AKT1	EGFR
SRC	AKT1	RELA
AKT1	EGFR	RELA
AKT1	RELA	VEGFA
EGFR	VEGFA	
MMP2	AKT1	EGFR
AKT1	RELA	VEGFA
AKT1	EGFR	VEGFA
RELA	VEGFA	
AKT1	EGFR	VEGFA
EGFR	RELA	

AKT1	EGFR	RELA
EGFR	RELA	VEGFA
EGFR	RELA	VEGFA
AKT1	RELA	
SRC	RELA	
RELA		
RELA		
AKT1	RELA	
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References	Remarks
Dr. Duke's; PubChem; TCMSP; SwissADME	
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Literature; Dr. Duke's; PubChem; TCMSP; SwissADME	
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KNApSAcK; Literature; BATMAN-TCM; Dr. Duke's; PubChem; TCMSP; SwissADME	Antihepatotoxic
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KNApSAcK; Literature; PubChem; TCMSP; SwissADME
Literature; PubChem; TCMSP; SwissADME
ChEBI; Literature; PubChem; SwissADME
KNApSAcK; Literature; PubChem; SwissADME
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2. Bioactive components of *Phyllanthus niruri*

	MW	InChlKey	Canonical Smiles	References

292.21	JFJWMFPFMLRLMI-VKHMYHEASA-N	C1C(C2=C(C1=O)OC(=O)C3=CC(=C(C(=C32)O)O)O)C(=O)O	Dr. Duke's; PubChem; TCMSP; SwissADME
136.26	XMGQYMWWDOXHJM-SNVBAGLBSA-N	CC1=CCC(CC1)C(=C)C	Literature; Dr. Duke's; PubChem; TCMSP; SwissADME
426.80	MQYXUWHLBZFQQO-QGTGJCAVSA-N	CC(=C)C1CCC2(C1C3CCC4C5(CCC(C(C5CCC4(C3(CC2)C)C)(C)C)O)C)C	Dr. Duke's; PubChem; TCMSP; SwissADME
152.16	OSWPMRLSEDHDFF-UHFFFAOYSA-N	COC(=O)C1=CC=CC=C1O	Literature; Dr. Duke's; PubChem; TCMSP; SwissADME

418.58	KFLQGJQSLUYUBF-WOJBJXKFSA-N	COCC(CC1=CC(=C(C=C1)OC)OC)C(CC2=CC(=C(C=C2)OC)OC)COC	KNApSAcK; Literature; BATMAN-TCM; Dr. Duke’s; PubChem; TCMSP; SwissADME
302.25	REFJWTPEDVJJIY-UHFFFAOYSA-N	C1=CC(=C(C=C1C2=C(C(=O)C3=C(C=C(C=C3O2)O)O)O)O)O	Literature; Dr. Duke’s; PubChem; TCMSP; SwissADME
430.50	LHQDZANQXMRHIV-LZJOCLMNSA-N	COCC1CC2=CC3=C(C(=C2C(C1COC)C4=CC(=C(C=C4)OC)OC)OC)OCO3	KNApSAcK; Literature; BATMAN-TCM; PubChem; SwissADME
448.50	RYZNPFYAGDHZDT-ROUUACIJSA-N	COCC(CC1=CC2=C(C(=C1)OC)OCO2)C(CC3=CC(=C(C(=C3)OC)O)OC)COC	Literature; BATMAN-TCM; PubChem; SwissADME

386.40	NQFDLHKMNTXMAG-QZTJIDSGSA-N	COCC(CC1=CC2=C(C=C1)OCO2)C(CC3=CC4=C(C=C3)OCO4)COC	Literature; PubChem; SwissADME
272.42	VOXZDWNPVJITMN-ZBRFXRBCSA-N	CC12CCC3C(C1CCC2O)CCC4=C3C=CC(=C4)O	Literature; PubChem; TCMSP; SwissADME
354.38	DDWGQGZPYDSYEL-LSDHHAIUSA-N	C1C(C(C(=O)O1)CC2=CC3=C(C=C2)OCO3)CC4=CC5=C(C=C4)OCO5	KNApSAcK; Literature; PubChem; TCMSP; SwissADME
430.50	LBJCUHLNHSKZBW-XGHQBKJUSA-N	COCC1CC2=CC(=C3C(=C2C(C1COC)C4=CC(=C(C=C4)OC)OC)OCO3)OC	KNApSAcK; Literature; PubChem; SwissADME
400.50	MMIPPOIFVHVHAK-JTUHZDRVSA-N	COCC1CC2=CC3=C(C=C2C(C1COC)C4=CC(=C(C=C4)OC)OC)OCO3	Literature; PubChem; SwissADME

400.50	WBJMMHMEDGPCCD-JTUHZDRVSA-N	COCC1CC2=CC(=C(C=C2C(C1COC)C3=CC4=C(C=C3)OCO4)OC)OC	Literature; PubChem; SwissADME
203.24	NBGOALXYAZVRPS-FOGDFJRCSA-N	C1CC2C34CC(N2C1)C=CC3=CC(=O)O4	Literature; PubChem; SwissADME
342.40	JJPULWMQUWTWAT-BUXKBTBVSA-N	CC1C(OC2=C1C=C(C=C2OC)CCCO)C3=CC4=C(C=C3)OCO4	Literature; PubChem; SwissADME
217.26	SWZMSZQQJRKFBP-UHFFFAOYSA-N	C1CCN2C(C1)C34CC2C=CC3=CC(=O)O4	Literature; PubChem; SwissADME
416.50	CZZKSEXMNQGXJU-ROMRWMGNSA-N	COCC1CC2=CC(=C(C=C2C(C1COC)C3=CC(=C(C=C3)OC)OC)OC)OC	Literature; PubChem; SwissADME

217.26	SWZMSZQQJRKFBP-WZRBSPASSA-N	C1CCN2C(C1)C34CC2C=CC3=CC(=O)O4	Literature; PubChem; SwissADME
384.40	XNZRAIUXPDCEOA-ZDPZECHZSA-N	COCC1CC2=CC3=C(C=C2C(C1COC)C4=CC5=C(C=C4)OCO5)OCO3	Literature; PubChem; SwissADME
146.15	ZYGHJZDHTFUPRJ-UHFFFAOYSA-N	C1=CC=C2C(=C1)C=CC(=O)O2	Literature; PubChem; TCMSP; SwissADME
238.25	HVQAJTFOCKOKIN-UHFFFAOYSA-N	C1=CC=C(C=C1)C2=C(C(=O)C3=CC=CC=C3O2)O	Literature; PubChem; TCMSP; SwissADME
302.20	AFSDNFLWKVMVRB-UHFFFAOYSA-N	C1=C2C3=C(C(=C1O)O)OC(=O)C4=CC(=C(C(=C43)OC2=O)O)O	Literature; PubChem; TCMSP; SwissADME

306.29	XMOCLSLCDHWDHP-SWLSCSKDSA-N	C1C(C(OC2=CC(=CC(=C21)O)O)C3=CC(=C(C(=C3)O)O)O)O	Literature; PubChem; TCMSP; SwissADME
364.30	VQFWNXWCQOHGRF-UHFFFAOYSA-N	COC1=CC=C(C=C1)C2=CC(=O)C3=C(O2)C=C(C(=C3O)S(=O)(=O)O)O	Literature; PubChem; SwissADME
134.24	HFPZCAJZSCWRBC-UHFFFAOYSA-N	CC1=CC=C(C=C1)C(C)C	Literature; PubChem; TCMSP; SwissADME
170.13	LNTHITQWFMADLM-UHFFFAOYSA-N	C1=C(C=C(C(=C1O)O)O)C(=O)O	KNApSAcK; Literature; PubChem; TCMSP; SwissADME
338.24	MFTSECOLKFLUSD-UHFFFAOYSA-N	C1=C(C(=C(C(=C1O)O)O)C2=C(C(=C(C=C2C(=O)O)O)O)O)C(=O)O	Literature; PubChem; TCMSP; SwissADME

306.22	JNWDNAASYHRXMG-UHFFFAOYSA-N	COC(=O)C1CC(=O)C2=C1C3=C(C(=C(C=C3C(=O)O2)O)O)O	ChEBI; Literature; PubChem; SwissADME
432.50	RCFGIEPQSDGMJJ-OALUTQOASA-N	COCC(CC1=CC(=C(C=C1)OC)OC)C(CC2=CC3=C(C(=C2)OC)OCO3)COC	KNApSAcK; Literature; PubChem; SwissADME
414.69	WQLVFSAGQJTQCK-VKROHFNGSA-N	CC1CCC2(C(C3C(O2)CC4C3(CCC5C4CC=C6C5(CCC(C6)O)C)C)C)OC1	Literature; PubChem; TCMSP; SwissADME
247.29	YKLWRYOORWTCQQ-ZXRVKKJVSA-N	COC1CCN2C(C1)C34CC2C=CC3=CC(=O)O4	Literature; PubChem; SwissADME
332.29	GDVRUDXLQBVIKP-HQHREHCSSA-N	C1=C(C=C(C(=C1O)O)O)C(=O)OC2C(C(C(C(C(O2)CO)O)O)O)O	KNApSAcK; Literature; PubChem; TCMSP; SwissADME

436.80	CGNVIRPGBUXJES-UHFFFAOYSA-N	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCC=O	ChEBI; Literature; PubChem; SwissADME
290.29	PFTAWBLQPZVEMU-DZGCQCFKSA-N	C1C(C(OC2=CC(=CC(=C21)O)O)C3=CC(=C(C=C3)O)O)O	Literature; PubChem; TCMSP; SwissADME
414.79	KZJWDPNRJALLNS-VJSFXXLFSA-N	CCC(CCC(C)C1CCC2C1(CCC3C2CC=C4C3(CCC(C4)O)C)C)C(C)C	KNApSAcK; PubChem; TCMSP; SwissADME
432.40	KTZDZZQLJUYTES-BBIYZJLNSA-N	CC1C(C(C(C(O1)OC2=CC=C(C=C2)C3=C(C(=O)C4=C(C=C(C=C4O3)O)O)O)O)O)O	KNApSAcK; PubChem; SwissADME
434.43	JMVXRLMOIOTWSB-PFZAOBAISA-N	CC1C(C(C(C(O1)OC2=CC(=C3C(=O)CC(OC3=C2)C4=CC(=C(C=C4)O)O)O)O)O)O	KNApSAcK; PubChem; TCMSP; SwissADME

233.26	WTUGFBFFNZHNEK-HWCLQQTBSA-N	COC1CC2C34CC(N2C1)C=CC3=CC(=O)O4	KNApSAcK; PubChem; SwissADME
398.40	WKRKXTOYTASIOP-YPUOWVPESA-N	COC1=CC(=CC(=C1O)OC)C=CC(=O)OC2C(CC(CC2O)(C(=O)O)O)O	ChEBI; PubChem; SwissADME
378.40	VPDBTIFHPUYJJJ-HGUAOMBGSA-N	COC1=C(C=CC(=C1)CC(CO)C(CO)C(C2=CC(=C(C=C2)O)OC)O)O	ChEBI; PubChem; SwissADME
386.40	JTHPLBUVRLOJBB-KCILRPRFSA-N	COC1=CC(=CC2=C1OC(C2C(=O)O)C3=CC(=C(C=C3)O)OC)C=CC(=O)O	ChEBI; PubChem; SwissADME
260.22	VWQNTRNACRFUCQ-DUXPYHPUSA-N	C1=CC(=C(C=C1C=CC(=O)O)OS(=O)(=O)O)O	ChEBI; PubChem; SwissADME

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