

Table S1 A total of 447 compounds in SQSRP

Compound	Herb	Compound	Herb	Compound	Herb
protocatechuic acid	RSM	methyltanshinonate	RSM	Pulegone	SC
5-isopropyl-2-methylbicyclo[3.1.0]hex-2-ene	RSM	microstegiol	RSM	alpha-humulene	SC
[(3R)-3,7-dimethylocta-1,6-dien-3-yl]acetate	RSM	miltionone I	RSM	eugenol	SC
Cymol	RSM	miltionone II	RSM	Tyrosol	SC
Satol	RSM	miltipolone	RSM	MTL	SC
NERYLACETATE	RSM	Miltirone	RSM	8-epi-Loganic acid	SC
(1R,2R,4S)-2,4-diisopropenyl-1-methyl-1-vinylcyclohexane	RSM	miltirone II	RSM	8-Epilpganic acid_qt	SC
EIC	RSM	neocryptotanshinone ii	RSM	Pinoresinol	SC
Oktadekan	RSM	neocryptotanshinone	RSM	Hentriacontan	SC
protocatechualdehyde	RSM	przewalskin	RSM	salidroside	SC
1,2,5,6-tetrahydrotanshinone	RSM	1-methyl-8,9-dihydro-7H-naphtho[5,6-g]benzofuran-6,10,11-trione	RSM	succinic acid	SC
beta-Chamigrene	RSM	paramiltioic acid	RSM	Sitogluside	SC
Poriferasterol	RSM	potassium salvianolate d	RSM	beta-sitosterol	SC
poriferast-5-en-3beta-ol	RSM	prolithospermic acid	RSM	TGL	SC
D-Camphene	RSM	(2S,3S)-2-(3,4-dihydroxyphenyl)-7-hydroxy-4-[(E)-3-hydroxy-3-oxoprop-1-enyl]-2,3-dihydrobenzofuran-3-carboxylic acid	RSM	genistein	SC
isoimperatorin	RSM	(2R)-3-(3,4-dihydroxyphenyl)-2-[(Z)-3-(3,4-dihydroxyphenyl)acryloyl]oxy-propionic acid	RSM	n-Heptadecanol	SC
(R)-linalool	RSM	salviacoccin	RSM	arachidonate	SC
cyanidol	RSM	danshensu	RSM	suchilactone	SC
Oleanolic acid deriv.	RSM	salvianic acid c	RSM	Acteoside_qt	SC
SPBio_002209	RSM	salvianolic acid a	RSM	WLN: VHR	SC
Moslene	RSM	salvianolic acid c	RSM	Hyacinthin	SC
1H-Cycloprop(e)azulen-7-ol, decahydro-1,1,7-trimethyl-4-methylene-, (1aR-(1aalpha,4aalpha,7beta,7abeta,7balpha))-	RSM	salvianolic acid d	RSM	MENTHOL	SC
sugiol	RSM	salvianolic acid e	RSM	Yangambin	SC
HEPTACOSANE	RSM	(Z)-3-[2-[(E)-2-(3,4-dihydroxyphenyl)viny]-3,4-dihydroxy-phenyl]acrylic acid	RSM	Propyl methyl trisulfide	SC

Table S1 (continued)

Table S1 (continued)

Compound	Herb	Compound	Herb	Compound	Herb
caffeic acid	RSM	salvianolic acid g	RSM	cistanoside D	SC
PENTACOSANE	RSM	salvianolic acid j	RSM	Liriodendrin	SC
(-)-beta-Phellandrene	RSM	salvilenone I	RSM	liriodendrin_qt	SC
oleanolic acid	RSM	salviol	RSM	BUA	SC
Dehydrotanshinone II A	RSM	salviolone	RSM	4-Phenylbicyclo[2,2,2] octan-1-ol	SC
VIV	RSM	salvipisone	RSM	Henicosanoic acid	SC
Baicalin	RSM	methyl (1S,4aS,5R,7S,7aS)- 5,7-dihydroxy-7-methyl-1- [(2S,3R,4S,5S,6R)-3,4, 5-trihydroxy-6-(hydroxymethyl) oxan-2-yl]oxy-4a,5,6,7a- tetrahydro-1H-cyclopenta[d]pyran- 4-carboxylate	RSM	MSM	SC
δ-cadinol	RSM	shanzhiside methyl ester_qt	RSM	(+)-pinoselinol-O-β-D- glucopyranoside	SC
[(1S)-endo]-(-)-Borneol	RSM	NSC 122421	RSM	m-Anisidine	SC
succinic acid	RSM	(6S)-6-hydroxy-1-methyl-6- methylol-8,9-dihydro-7H- naphtho[8,7-g]benzofuran-10, 11-quinone	RSM	cyanidol	SC
beta-caryophyllene	RSM	Tanshindiol B	RSM	(1R,4aR,4bR,10aS)-7- isopropyl-1,4a-dimethyl- 2,3,4,4b,5,6,10,10a- octahydrophenanthrene-1- carboxylic acid	SC
L-Serin	RSM	Przewaquinone E	RSM	(1S,4S,7R)-7-bicyclo[2.2.2]oct- 2-enol	SC
Threonin	RSM	Tanshilactone	RSM	quercetin	SC
PHA	RSM	tanshinone iia	RSM	Cistanin	SC
NSC733507	RSM	(6S)-6-(hydroxymethyl)-1, 6-dimethyl-8, 9-dihydro-7H-naphtho[8,7-g] benzofuran-10,11-dione	RSM	Cistanoside A	SC
LPG	RSM	tanshinone VI	RSM	Cistanoside A_qt	SC
(2S)-2-amino-3-[(2R)-2-amino-3-hydroxy- 3-oxopropyl]disulfanylpropanoic acid	RSM	tanshinone i	RSM	.beta.-D-Glucopyranoside, 2-(4-hydroxy-3-methoxyphenyl) ethyl 3-O-(6-deoxy-.alpha.-L- mannopyranosyl)-4-O-[(2E)-3- (3,4-dihydroxyphenyl)-1-oxo-2- propenyl]-	SC
tigogenin	RSM	Spirostan-3-ol, (3beta,5alpha,25S)-	RSM	Cistanoside E	SC

Table S1 (continued)

Table S1 (continued)

Compound	Herb	Compound	Herb	Compound	Herb
Monomethyl lithospermate	RSM	uvaol	RSM	Cistanoside E_qt	SC
Phycion	RSM	β -cadinol	RSM	Cistanoside F	SC
Stenol	RSM	apigenin	RSM	Cistanoside H	SC
TMH	RSM	stearic acid	RSM	1-Methyl-4-isoallyl-cyclohexane	SC
GLY	RSM	hexadecane	RSM	[(7S,8R)-7-hydroxy-5,6,7,8-tetrahydro-3H-pyrrolizin-1-yl]methyl (2R)-2-hydroxy-2-(1-hydroxyethyl)-3-methylbutanoate	SC
ursolic acid	RSM	Henicosane	RSM	Epimedin A	SC
Glutamine	RSM	luteolin-7-o-glucoside	RSM	16-Triacontanol	SC
L-	RSM	(R)-p-Menth-1-en-4-ol	RSM	Leonuride(ajugol)	SC
(-)-Epicedrol	RSM	Germacrene D	RSM	Leonuride(ajugol)_qt	SC
Leucinum	RSM	alpha-Farnesene	RSM	methyl 2-dimethylaminoacetate	SC
h-Met-h	RSM	(1R,4S,4aR,8aR)-4-isopropyl-1,6-dimethyl-3,4,4a,7,8,8a-hexahydro-2H-naphthalen-1-ol	RSM	[(2R,3R,4S,5R,6R)-5-acetyloxy-6-[2-(3,4-dihydroxyphenyl)ethoxy]-2-(hydroxymethyl)-4-[(2S,3R,4R,5R,6S)-3,4,5-trihydroxy-6-methyloxan-2-yl]oxyoxan-3-yl] (E)-3-(3,4-dihydroxyphenyl)prop-2-enoate	SC
L-Lysin	RSM	vanillic acid	RA	Marckine	SC
Glucosol	RSM	EIC	RA	cistanoside B	SC
DTY	RSM	Mairin	RA	cistanoside B_qt	SC
digallate	RSM	Heriguard	RA	Ethyl disulfide	SC
isoferulic acid	RSM	Jaranol	RA	echinacoside	SC
luteolin	RSM	Rhamnocitrin	RA	echinacoside_qt	SC
Prolinum	RSM	alexandrin	RA	2,3-Dimethylheptane	SC
8-isopropylidene-1,5-dimethylcyclodeca-1,5-diene	RSM	hederagenin	RA	n-Decyl glucoside	SC
1,5-Dihydroxy-3-methylantraquinone	RSM	(3S,8S,9S,10R,13R,14S,17R)-10,13-dimethyl-17-[(2R,5S)-5-propan-2-yloctan-2-yl]-2,3,4,7,8,9,11,12,14,15,16,17-dodecahydro-1H-cyclopenta[a]phenanthren-3-ol	RA	SBU	SC
ASI	RSM	isorhamnetin	RA	2,6-diisobutyl-4-methylphenol	SC
L-Valin	RSM	lupeol	RA	3,4,5,5-Tetramethyl-2-cyclopenten-1-one	SC

Table S1 (continued)

Table S1 (continued)

Compound	Herb	Compound	Herb	Compound	Herb
oleic acid	RSM	3,9-di-O-methylnissofin	RA	3,4-Dioxymethulene-5methoxy-1-(1-oxopropyl) benzene	SC
L-Ile	RSM	3-Hydroxy-2-picoline	RA	n-Triacontanol	SC
α -amyrin	RSM	(2S)-4-methoxy-7-methyl-2-[1-methyl-1-[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-methylol-tetrahydropyran-2-yl]oxy-ethyl]-2,3-dihydrofuro[3,2-g]chromen-5-one	RA	17-beta-estradiol	Musk
palmitic acid	RSM	5'-hydroxyiso-muronulatol-2', 5'-di-O-glucoside	RA	1beta,2beta,5alpha,11-tetraacetoxo-8alpha-benzoyl-4alpha-hydroxy-7beta-nicotinoyl-dihydroagarofuran	Musk
(E)-3-(3-hydroxy-4,5-dimethoxy-phenyl) acrylic acid	RSM	5'-hydroxyiso-muronulatol-2', 5'-di-O-glucoside_qt	RA	2,6-decamethylene pyridine	Musk
5,6-dihydroxy-7-isopropyl-1,1-dimethyl-2,3-dihydrophenanthren-4-one	RSM	7,2'-dihydroxy-3', 4'-dimethoxyisoflavone-7-O- β -D-glucoside	RA	2,6-nonamethylene pyridine	Musk
1,2-DT-Quinone	RSM	7-hydroxy-3-(2-hydroxy-3,4-dimethoxy-phenyl)chromone	RA	22-cyclopentylloxil-22-deisopentyl-3beta-hydroxyl-guranstanol	Musk
Dehydromiltirone	RSM	7-O-methylisomucronulatol	RA	3'(s)-hydroxy-4'(r)angeloyloxy-3',4'-dihydroxanthyletin	Musk
Henicosyl formate	RSM	9,10-dimethoxypterocarpan-3-O- β -D-glucoside	RA	3,5-dihydroxybenzoic acid	Musk
1-ketoisocryptotanshinone	RSM	(6aR,11aR)-9,10-dimethoxy-6a,11a-dihydro-6H-benzofurano[3,2-c]chromen-3-ol	RA	3-methylcyclotridecan-1-one	Musk
2-isopropyl-8-methylphenanthrene-3,4-dione	RSM	13-hydroxy-9,11-octadecadienoic acid	RA	3alpha,17-dihydroxy-5beta-androstane	Musk
3-epicorosolic,acid	RSM	Arabinose,d	RA	3alpha-hydroxy-5alpha-androstan-17-one	Musk
1-(3,4-dihydroxyphenyl)-2-hydroxyethanone	RSM	D-Galacturonic acid, homopolymer	RA	3alpha-hydroxy-androst-4-ene-17-one	Musk
3,7-dimethylocta-2,6-dien-1-yl formate	RSM	DL-Glucuronic acid	RA	3beta,17alpha-dihydroxy-5alpha-androstane	Musk
3 α -hydroxytanshinoneIIa	RSM	isoferulic acid	RA	3beta-hydroxy-5alpha-androstan-17-one	Musk
3beta-Hydroxytanshinone IIA	RSM	Fucopyranose, L-	RA	3beta-hydroxy-androst-5-ene-17-one	Musk
(1R,4R,5S)-1-isopropyl-4-methyl-4-bicyclo[3.1.0]hexanol	RSM	Bifendate	RA	3 α -hydroxy-5 β -androstan-17-one	Musk
(E)-3-[2-(3,4-dihydroxyphenyl)-7-hydroxy-benzofuran-4-yl]acrylic acid	RSM	gamma-aminobutyric acid	RA	3 α -hydroxy-androst-4-ene-17-one	Musk

Table S1 (continued)

Table S1 (continued)

Compound	Herb	Compound	Herb	Compound	Herb
4-methylenemiltirone	RSM	FERULIC ACID (CIS)	RA	3 α -ureido-androst-4-en-17-one	Musk
2-(4-hydroxy-3-methoxyphenyl)-5-(3-hydroxypropyl)-7-methoxy-3-benzofurancarboxaldehyde	RSM	daidzein	RA	3 α -ureido-androst-4-en-17 β -ol	Musk
6-o-syringyl-8-o-acetyl shanzhiside methyl ester	RSM	Ononin	RA	3 β -hydroxy-5 α -androstan-17-one	Musk
6-o-syringyl-8-o-acetyl shanzhiside methyl ester Qt	RSM	formononetin	RA	3 β -hydroxy-androst-5-ene-17-one	Musk
7-oxoroleanone2	RSM	Soyasaponin I	RA	5 alpha-androstan-3,17-dione	Musk
(4bS,8aS,10S)-10-hydroxy-2-isopropyl-4b,8,8-trimethyl-5,6,7,8a,9,10-hexahydrophenanthrene-3,4-dione	RSM	choline	RA	5 beta-androstan-3 alpha,17 alpha-diol	Musk
9-methyl lithospermate b	RSM	GGB	RA	5 beta-androstan-3 alpha,17 beta-diol	Musk
TNP00297	RSM	(+)-Syringaresinol	RA	5 beta-androstan-3,17-dione	Musk
Heriguard	RSM	cis-p-Coumarate	RA	5-cis-cyclopentadecen-1-one	Musk
formyltanshinone	RSM	isoflavanone	RA	5-cis-cyclotetradecen-1-one	Musk
3-beta-Hydroxymethylenetanshinquinone	RSM	Docosanoate	RA	5 α -androstan-3,17-dione	Musk
Lithospermic acid B	RSM	Flavaxin	RA	5 α -androstan-3 β ,17 α -diol	Musk
Methylenetanshinquinone	RSM	astragalosidel	RA	5 β -androstan-3,17-dione	Musk
neo-przewaquinone a	RSM	astragalosidel Qt	RA	5 β -androstan-3 α ,17 α -diol	Musk
przewalskin a	RSM	astragalosidell	RA	5 β -androstan-3 α ,17 β -diol	Musk
przewalskin b	RSM	astragalosidell Qt	RA	6-hydroxy-musizin-8-o-beta-d-glucoside	Musk
przewalskin c	RSM	astragalosidelll	RA	allantoin	Musk
przewalskin d	RSM	astragalosidelll Qt	RA	alpha-estradiol	Musk
Przewaquinone A	RSM	astragalosidelV	RA	androst-4,6-diene-3,17-dione	Musk
Przewaquinone B	RSM	astragalosidelV Qt	RA	androst-4-ene-3,17-dione	Musk
przewaquinone c	RSM	AstragalosidelV	RA	androsterone	Musk
(6S,7R)-6,7-dihydroxy-1,6-dimethyl-8,9-dihydro-7H-naphtho[8,7-g]benzofuran-10,11-dione	RSM	AstragalosidelV Qt	RA	cholest-4-ene-3-one	Musk
przewaquinone f	RSM	Astraisoflavanin	RA	cholesterol	Musk
(2S)-3-(3,4-dihydroxyphenyl)-2-hydroxypropanoic acid	RSM	Mucronulatol	RA	cholesteryl ferulate	Musk
saloilenone	RSM	astrachryoside A	RA	cyclotetradecan-1-one	Musk
salvianolic acid b	RSM	Caffeate	RA	cycloviroboxine	Musk
salvianolic acid n	RSM	rutin	RA	decamine	Musk

Table S1 (continued)

Table S1 (continued)

Compound	Herb	Compound	Herb	Compound	Herb
Saprothoquinone	RSM	Lariciresinol	RA	estragole	Musk
sclareol	RSM	Calycosin	RA	hydroxymuscopiridine a	Musk
Tannin	RSM	3'-Hydroxy-4'-methoxyisoflavone-7-O-beta-D-glucoside	RA	hydroxymuscopiridine b	Musk
tanshinaldehyde	RSM	astrasieversianin XV	RA	morin	Musk
Tanshinol A	RSM	XLS	RA	musclide a1	Musk
Danshenol B	RSM	nicotinic acid	RA	muscol	Musk
Danshenol A	RSM	kaempferol	RA	muscone	Musk
Z-8-Hexadecen-1-ol acetate	RSM	rhamnocitrin-3-O-glucoside	RA	muscopiridine	Musk
Aethiopinone	RSM	RAM	RA	musennin	Musk
Salvilenone	RSM	asernestioside A	RA	n-nonane	Musk
carosol	RSM	asernestioside A Qt	RA	n-nornuciferine	Musk
cryptotanshinone	RSM	asernestioside B	RA	normuscone	Musk
Cyclotetradecane	RSM	asernestioside B Qt	RA	s-methyl cysteine	Musk
dan-shexinkum a	RSM	Crystal VI	RA	testosterone	Musk
dan-shexinkum b	RSM	betaine	RA	α -estradiol	Musk
dan-shexinkum c	RSM	coumarin	RA	β -estradiol	Musk
dan-shexinkum d	RSM	linolenic acid	RA	methyl palmitate	Musk
danshenspiroketallactone	RSM	FA	RA	triolein	Musk
danshenspiroketallactoneii	RSM	acetylastragaloside I	RA	aspartate asparagic acid asparaginic acid aspartic acid	Musk
daucoesterol	RSM	acetylastragaloside I Qt	RA	glycine	Musk
dehydrouvaol	RSM	(Z)-1-(2,4-dihydroxyphenyl)-3-(4-hydroxyphenyl)prop-2-en-1-one	RA	serine	Musk
deoxyneocryptotanshinone	RSM	Hirsutrin	RA	glutamic acid	Musk
dihydroisotanshinoneI	RSM	(3R)-3-(2-hydroxy-3,4-dimethoxyphenyl)chroman-7-ol	RA	urea	Musk
Istidina	RSM	isomucronulatol-7,2'-di-O-glucosiole	RA	methyl oleate methyl-9-octadecenoate	Musk
dihydrotanshinolactone	RSM	isomucronulatol-7,2'-di-O-glucosiole Qt	RA	Δ 4-cholestenone-3	Musk
dihydrotanshinoneI	RSM	LUPENONE	RA	cholestanol	Musk
diisopro-penyl methyl vinyl cyclohexane2	RSM	1,7-Dihydroxy-3,9-dimethoxy pterocarpene	RA	cholic acid	Musk
dimetbyl lithosper-mate b	RSM	L-	RA	3 α -hydroxyandrostan-4-en-17 β -one	Musk

Table S1 (continued)

Table S1 (continued)

Compound	Herb	Compound	Herb	Compound	Herb
dimethylolithospermate	RSM	Prolinum	RA	androst-4-en-3,17-dione	Musk
epidanshenspiroketallactone	RSM	palmitic acid	RA	5 α -androstane-3,17-dione	Musk
ethyl lithospermate	RSM	quercetin	RA	5 β -androstane-3,17-dione	Musk
C09092	RSM	Neral	SC	5 β -androstane-3 α ,17 β -diol	Musk
isocryptotanshi-none	RSM	WLN: Q1R	SC	5 β -androstane-3 α' ,17 β -diol	Musk
isosalvianolic acid c	RSM	(+)-Ledol	SC	valine	Musk
isotanshinone iib	RSM	Leonurine	SC	3 β - hydroxy-5 β -androstan-17-one	Musk
Isotanshinone II	RSM	acteoside	SC	3 β - hydroxy-androst-5-en-17-one	Musk
Isotanshinone I	RSM	decaffeoylacteoside	SC	5 α -androstane-3,17-diol	Musk
lithospermic acid	RSM	Geniposidic acid	SC	5 β -androstane-3 α ,17 α -diol	Musk
manool	RSM	geniposidie acid_qt	SC	3 β -hydroxyandrost-5-en-17-one	Musk
methylrosmarinate	RSM	Dauricine (8CI)	SC	androst-4-one-3,17-dione	Musk

SQSRP, Shengqisherong Pill; RSM, Radix Salviae Miltiorrhiza; RA, Radix Astragali; SC, Saline Cistanche.

Table S2 After screening the TCMSP and the Uniprot databases, a total of 249 target genes corresponding to 84 compounds were identified

Mol ID	Compound	OB (%)	DL	Herb	Gene Symbol
MOL001601	1,2,5,6-tetrahydrotanshinone	38.75	0.36	RSM	<i>PTGS1/CHRM3/CHRM1/SCN5A/CHRM5/PTGS2/HTR3A/CHRM4/RXRA/OPRD1/ADRA1A/CHRM2/ADRA1B/SLC6A3/ADRB2/ADRA1D/OPRM1/GABRA1/NCOA2/NCOA1/SLC6A4</i>
MOL001659	Poriferasterol	43.83	0.76	RSM	<i>PGR/NR3C2</i>
MOL001771	poriferast-5-en-3beta-ol	36.91	0.75	RSM	<i>PGR/NCOA2</i>
MOL001942	isoimperatorin	45.46	0.23	RSM	<i>PTGS2</i>
MOL002222	sugiol	36.11	0.28	RSM	<i>CHRM3/CHRM1/SCN5A/CHRM5/PTGS2/CHRM4/OPRD1/ACHE/ADRA1A/CHRM2/ADRA1B/ADRB2/ADRA1D/DRD2/OPRM1</i>
MOL002651	Dehydrotanshinone II A	43.76	0.4	RSM	<i>CHRM3/CHRM1/ESR1/AR/SCN5A/PPARG/CHRM5/PTGS2/CHRM4/OPRD1/ACHE/ADRA1A/ADRB2/OPRM1/GABRA1/NCOA1</i>
MOL002776	Baicalin	40.12	0.75	RSM	
MOL000569	digallate	61.85	0.26	RSM	<i>PTGS2/AKR1B1</i>
MOL000006	luteolin	36.16	0.25	RSM	<i>PTGS1/AR/PTGS2/PRSS1/NCOA2/RELA/EGFR/AKT1/VEGFA/CCND1/BCL2L1/CDKN1A/CASP9/MMP2/MMP9/MAPK1/IL10/RB1/TNFSF15/JUN/IL6/CASP3/TP63/NFKBIA/TOP1/MDM2/APP/MMP1/PCNA/ERBB2/PPARG/HMOX1/CASP7/ICAM1/MCL1/BIRC5/IL2/CCNB1/TYR/IFNG/IL4/TOP2A/GSTP1/SLC2A4/INSR/CD40LG/PTGES/NUF2/ADCY2/MET</i>
MOL006824	α -amyrin	39.51	0.76	RSM	
MOL007036	5,6-dihydroxy-7-isopropyl-1,1-dimethyl-2,3-dihydrophenanthren-4-one	33.77	0.29	RSM	<i>PTGS1/CHRM3/CHRM1/SCN5A/PTGS2/RXRA/ACHE/ADRA1A/ADRA1B/ADRB2/OPRM1/NCOA2/NCOA1</i>
MOL007041	2-isopropyl-8-methylphenanthrene-3,4-dione	40.86	0.23	RSM	<i>PTGS1/CHRM3/CHRM1/ESR1/AR/SCN5A/PPARG/CHRM5/PTGS2/HTR3A/CHRM4/RXRA/ADRA1A/CHRM2/ADRA1B/SLC6A3/ADRB2/ADRA1D/SLC6A4/OPRM1/GABRA1/CCNA2/NCOA2</i>
MOL007045	3 α -hydroxytanshinoneIIa	44.93	0.44	RSM	<i>CHRM1/SCN5A/CHRM5/PTGS2/OPRD1/ACHE/ADRB2/OPRM1/PRSS1/NCOA1</i>
MOL007048	(E)-3-[2-(3,4-dihydroxyphenyl)-7-hydroxy-benzofuran-4-yl]acrylic acid	48.24	0.31	RSM	<i>PTGS2</i>
MOL007049	4-methylenemiltirone	34.35	0.23	RSM	<i>PTGS1/CHRM3/CHRM1/ESR1/AR/SCN5A/PPARG/CHRM5/PTGS2/ADRA2A/ADRA2C/CHRM4/RXRA/OPRD1/ADRA1A/CHRM2/ADRA1B/SLC6A3/ADRB2/ADRA1D/SLC6A4/DRD2/OPRM1/GABRA1/NCOA2/NCOA1</i>
MOL007050	2-(4-hydroxy-3-methoxyphenyl)-5-(3-hydroxypropyl)-7-methoxy-3-benzofurancarboxaldehyde	62.78	0.4	RSM	<i>NOS2/ESR1/AR/PPARG/ESR2/MAPK14/GSK3B/CCNA2</i>

Table S2 (continued)

Table S2 (continued)

Mol ID	Compound	OB (%)	DL	Herb	Gene Symbol
MOL007051	6-o-syringyl-8-o-acetyl shanzhiside methyl ester	46.69	0.71	RSM	
MOL007058	formyltanshinone	73.44	0.42	RSM	AR/PTGS2/RXRA/NCOA1
MOL007059	3-beta-Hydroxymethylenetanshiquinone	32.16	0.41	RSM	CHRM1/PTGS2/RXRA/OPRD1/ACHE/ADRA1A/ADRB2/OPRM1/PRSS1/NCOA1
MOL007061	Methylenetanshinquinone	37.07	0.36	RSM	CHRM3/CHRM1/SCN5A/CHRM5/PTGS2/RXRA/OPRD1/ACHE/ADRA1A/CHRM2/ADRB2/SLC6A4/OPRM1/GABRA1/PRSS1/NCOA1
MOL007063	przewalskin a	37.11	0.65	RSM	NR3C2/NR3C1
MOL007064	przewalskin b	110.32	0.44	RSM	PTGS2/PGR/NR3C2/NR3C1/NCOA2/NCOA1
MOL007068	Przewaquinone B	62.24	0.41	RSM	PTGS2/RXRA/PRSS1/NCOA1
MOL007069	przewaquinone c	55.74	0.4	RSM	PTGS1/CHRM3/CHRM1/SCN5A/CHRM5/PTGS2/CHRM4/OPRD1/ACHE/ADRA1A/CHRM2/ADRB2/OPRM1/GABRA1/NCOA1
MOL007070	(6S,7R)-6,7-dihydroxy-1,6-dimethyl-8,9-dihydro-7H-naphtho[8,7-g]benzofuran-10,11-dione	41.31	0.45	RSM	PTGS2/ACHE/PRSS1/NCOA1
MOL007071	przewaquinone f	40.31	0.46	RSM	PTGS2/PRSS1/NCOA1
MOL007077	sclareol	43.67	0.21	RSM	PTGS2
MOL007079	tanshinaldehyde	52.47	0.45	RSM	CHRM1/PTGS2/OPRD1/ACHE/ADRB2/OPRM1/PRSS1/NCOA1
MOL007081	Danshenol B	57.95	0.56	RSM	PTGS2/PGR/OPRM1/NR3C1/NCOA1
MOL007082	Danshenol A	56.97	0.52	RSM	PTGS1/KCNH2/SCN5A/PTGS2/RXRA/NCOA1
MOL007085	Salvilenone	30.38	0.38	RSM	PTGS1/ESR1/AR/CHRM5/PTGS2/HTR3A/ESR2
MOL007088	cryptotanshinone	52.34	0.4	RSM	PTGS1/CHRM3/CHRM1/SCN5A/CHRM5/PTGS2/CHRM4/OPRD1/ADRA1A/CHRM2/ADRA1B/ADRB2/ADRA1D/OPRM1/NCOA2/NCOA1/PGR/GABRA1/RELA/STAT3/CCND1/BCL2L1/TNF/SF15/APP/EDN3/BIRC5
MOL007093	dan-shexinkum d	38.88	0.55	RSM	NOS2/PTGS1/KCNH2/CHRM1/ESR1/AR/SCN5A/PPARG/PTGS2/RXRA/ACHE/ADRA1B/ADRB2/ESR2/GSK3B/CHEK1/PRSS1/CCNA2/NCOA2/NCOA1
MOL007094	danshenspiroketalactone	50.43	0.31	RSM	PTGS1/CHRM3/CHRM1/ESR1/SCN5A/CHRM5/PTGS2/CHRM4/RXRA/ACHE/ADRA1A/CHRM2/ADRA1B/ADRB2/ADRA1D/CHRNA2/SLC6A4/OPRM1/GABRA1
MOL007098	deoxyneocryptotanshinone	49.4	0.29	RSM	PTGS1/CHRM3/CHRM1/ESR1/AR/SCN5A/CHRM5/PTGS2/CHRM4/RXRA/OPRD1/ADRA1A/CHRM2/ADRA1B/ADRB2/ADRA1D/OPRM1/GSK3B/NCOA2/NCOA1

Table S2 (continued)

Table S2 (continued)

Mol ID	Compound	OB (%)	DL	Herb	Gene Symbol
MOL007100	dihydrotanshinlactone	38.68	0.32	RSM	NOS2/PTGS1/CHRM3/CHRM1/ESR1/AR/ SCN5A/PPARG/CHRM5/PTGS2/HTR3A/RXRA/ ACHE/ADRA1A/ADRA1B/SLC6A3/ADRB2/ ADRA1D/SLC6A4/OPRM1/GABRA1/GSK3B/ PRSS1/CCNA2
MOL007101	dihydrotanshinoneI	45.04	0.36	RSM	PTGS1/SCN5A/PTGS2/HTR3A/RXRA/ADRA1A/ ADRA1B/ADRB2/GABRA1/NCOA2/NCOA1
MOL007105	epidanshenspiroketallactone	68.27	0.31	RSM	PTGS1/CHRM3/CHRM1/ESR1/SCN5A/CHRM5/ PTGS2/CHRM4/RXRA/OPRD1/ADRA1A/CHRM2/ ADRA1B/ADRB2/ADRA1D/SLC6A4/OPRM1/ GABRA1
MOL007107	C09092	36.07	0.25	RSM	CHRM3/CHRM1/SCN5A/ACHE/ADRA1A/ CHRM2/ADRA1B/ADRB2/ADRA1D/OPRM1
MOL007108	isocryptotanshi-none	54.98	0.39	RSM	NOS2/PTGS1/CHRM3/CHRM1/ESR1/AR/ SCN5A/CHRM5/PTGS2/CHRM4/RXRA/OPRD1/ ACHE/ADRA1A/CHRM2/ADRA1B/ADRB2/ ADRA1D/DRD2/OPRM1/GABRA1/PRSS1/ NCOA2/NCOA1
MOL007111	Isotanshinone II	49.92	0.4	RSM	NOS2/CHRM3/CHRM1/ESR1/AR/SCN5A/ CHRM5/PTGS2/RXRA/OPRD1/ACHE/ADRA1A/ CHRM2/ADRB2/OPRM1/ESR2/GABRA1/GSK3B/ CHEK1/CCNA2
MOL007115	manool	45.04	0.2	RSM	NCOA2
MOL007118	microstegiol	39.61	0.28	RSM	
MOL007119	miltionone I	49.68	0.32	RSM	PTGS1/CHRM3/CHRM1/ESR1/AR/SCN5A/ PTGS2/RXRA/OPRD1/ADRA1A/CHRM2/ ADRA1B/ADRB2/OPRM1/NR3C1/GSK3B/ CCNA2/NCOA2/NCOA1
MOL007120	miltionone II	71.03	0.44	RSM	PTGS2/ACHE/PGR/NR3C1/NCOA2/NCOA1
MOL007121	miltipolone	36.56	0.37	RSM	ESR1/ACHE
MOL007122	Miltirone	38.76	0.25	RSM	PTGS1/CHRM3/CHRM1/ESR1/AR/DRD5/ SCN5A/CHRM5/PTGS2/ADRA2C/CHRM4/RXRA/ OPRD1/ADRA1A/CHRM2/ADRA1B/SLC6A3/ ADRB2/ADRA1D/OPRM1/NCOA2
MOL007123	miltirone II	44.95	0.24	RSM	
MOL007124	neocryptotanshinone ii	39.46	0.23	RSM	PTGS1/CHRM3/CHRM1/ESR1/AR/SCN5A/ PTGS2/CHRM4/RXRA/OPRD1/ADRA1A/CHRM2/ ADRA1B/SLC6A3/ADRB2/ADRA1D/SLC6A4/ OPRM1/GABRA1/GSK3B/CCNA2
MOL007125	neocryptotanshinone	52.49	0.32	RSM	PTGS1/CHRM3/CHRM1/SCN5A/PPARG/PTGS2/ ADRA1B/ADRB2/ADRA1D/OPRM1/NCOA2/ NCOA1

Table S2 (continued)

Table S2 (continued)

Mol ID	Compound	OB (%)	DL	Herb	Gene Symbol
MOL007127	1-methyl-8,9-dihydro-7H-naphtho[5,6-g]benzofuran-6,10,11-trione	34.72	0.37	RSM	<i>PTGS1/CHRM3/SCN5A/CHRM5/PTGS2/RXRRA/ACHE/ADRA1A/ADRB2/OPRM1/GABRA1/NCOA1</i>
MOL007130	prolithospermic acid	64.37	0.31	RSM	<i>NOS2/PTGS1/ESR1/AR/PTGS2/PRSS1</i>
MOL007132	(2R)-3-(3,4-dihydroxyphenyl)-2-[(Z)-3-(3,4-dihydroxyphenyl)acryloyl]oxypropionic acid	109.38	0.35	RSM	<i>ESR1/AR/PPARG/PTGS2/PRSS1/CCNA2</i>
MOL007140	(Z)-3-[2-[(E)-2-(3,4-dihydroxyphenyl)vinyl]-3,4-dihydroxy-phenyl]acrylic acid	88.54	0.26	RSM	
MOL007141	salvianolic acid g	45.56	0.61	RSM	<i>PTGS2</i>
MOL007142	salvianolic acid j	43.38	0.72	RSM	<i>F7/PRSS1</i>
MOL007143	salvilene I	32.43	0.23	RSM	<i>PTGS2/RXRRA/ACHE/PGR/NR3C1/NCOA2/NCOA1</i>
MOL007145	salviolone	31.72	0.24	RSM	<i>PTGS1/CHRM3/CHRM1/DRD5/SCN5A/CHRM5/PTGS2/ADRA2A/HTR3A/CHRM4/OPRD1/ACHE/SLC6A2/ADRA1A/CHRM2/ADRA2B/ADRA1B/SLC6A3/ADRB2/CHRNA2/SLC6A4/DRD2/OPRM1/GABRA1/GABRG3/GABRE</i>
MOL007149	NSC 122421	34.49	0.28	RSM	
MOL007150	(6S)-6-hydroxy-1-methyl-6-methylol-8,9-dihydro-7H-naphtho[8,7-g]benzofuran-10,11-quinone	75.39	0.46	RSM	<i>PTGS2/ACHE/PRSS1/NCOA1</i>
MOL007151	Tanshindiol B	42.67	0.45	RSM	<i>PTGS2/ACHE/NCOA1</i>
MOL007152	Przewaquinone E	42.85	0.45	RSM	<i>PTGS2/ACHE/NCOA1</i>
MOL007154	tanshinone iia	49.89	0.4	RSM	<i>CHRM3/CHRM1/SCN5A/CHRM5/PTGS2/CHRM4/OPRD1/ACHE/ADRA1A/CHRM2/ADRB2/OPRM1/NCOA1/RXRRA/RELA/BCL2/FOS/CDKN1A/MMP9/JUN/AHSA1/CASP3/TP63/NFKBIA/FASN/EDNRA/EDN3/CYP3A4/CYP1A2/MYC/CYP1A1/NR1I2/NPM1/ECE1/PARP4/CALCR/ITGB3</i>
MOL007155	(6S)-6-(hydroxymethyl)-1,6-dimethyl-8,9-dihydro-7H-naphtho[8,7-g]benzofuran-10,11-dione	65.26	0.45	RSM	<i>CHRM1/SCN5A/PTGS2/OPRD1/ACHE/ADRA1A/ADRB2/OPRM1/PRSS1/NCOA1</i>
MOL007156	tanshinone VI	45.64	0.3	RSM	<i>PTGS1/ESR1/AR/SCN5A/PPARG/PTGS2/NCOA2/NCOA1</i>
MOL000211	Mairin	55.38	0.78	RA	<i>PGR</i>
MOL000239	Jaranol	50.83	0.29	RA	<i>NOS2/PTGS1/AR/SCN5A/PTGS2/ESR2/CHEK1/PRSS1/NCOA2</i>
MOL000296	hederagenin	36.91	0.75	RA	<i>PGR/NCOA2/CHRM3/CHRM1/CHRM2/ADRA1B/GABRA1/GRIA2/ADH1B/ADH1C/LYZ/PTGS1/SCN5A/PTGS2/RXRRA/SLC6A2</i>

Table S2 (continued)

Table S2 (continued)

Mol ID	Compound	OB (%)	DL	Herb	Gene Symbol
MOL000033	(3S,8S,9S,10R,13R,14S,17R)-10,13-dimethyl-17-[(2R,5S)-5-propan-2-yloctan-2-yl]-2,3,4,7,8,9,11,12,14,15,16,17-dodecahydro-1H-cyclopenta[a]phenanthren-3-ol	36.23	0.78	RA	<i>PGR</i>
MOL000354	isorhamnetin	49.6	0.31	RA	<i>NOS2/PTGS1/ESR1/AR/PPARG/PTGS2/ESR2/MAPK14/GSK3B/PRSS1/CCNA2/NCOA2/PYGM/CHEK1/AKR1B1/NCOA1/F7/ACHE/GABRA1/MAOB/GRIA2/RELA/NCF1/OLR1</i>
MOL000371	3,9-di-O-methylisossolin	53.74	0.48	RA	<i>NOS2/PTGS1/CHRM3/CHRM1/ESR1/ADRB1/SCN5A/PTGS2/HTR3A/ADRA2C/RXRA/ACHE/ADRA1B/ADRB2/ADRA1D/OPRM1/GABRA1/PRSS1/NCOA2</i>
MOL000374	5'-hydroxyiso-muronulatol-2',5'-di-O-glucoside	41.72	0.69	RA	
MOL000378	7-O-methylisomucronulatol	74.69	0.3	RA	<i>NOS2/PTGS1/CHRM3/KCNH2/CHRM1/ESR1/AR/ADRB1/SCN5A/PPARG/CHRM5/PTGS2/ADRA2C/CHRM4/RXRA/OPRD1/ADRA1A/CHRM2/ADRA1B/SLC6A3/ADRB2/ADRA1D/SLC6A4/ESR2/GABRA1/MAPK14/GSK3B/CHEK1/RXR/PRSS1/CCNA2/NCOA2</i>
MOL000379	9,10-dimethoxypterocarpan-3-O-β-D-glucoside	36.74	0.92	RA	<i>PTGS2/NCOA2</i>
MOL000380	(6aR,11aR)-9,10-dimethoxy-6a,11a-dihydro-6H-benzofurano[3,2-c]chromen-3-ol	64.26	0.42	RA	<i>NOS2/PTGS1/CHRM3/CHRM1/ESR1/SCN5A/PTGS2/HTR3A/RXRA/ACHE/ADRA1B/ADRB2/ADRA1D/GABRA1/PRSS1/NCOA2/NCOA1/CHRM4</i>
MOL000387	Bifendate	31.1	0.67	RA	<i>PTGS2/KDR/MET/PTGS1</i>
MOL000392	formononetin	69.67	0.21	RA	<i>NOS2/PTGS1/CHRM1/ESR1/AR/PPARG/PTGS2/RXRA/ADRA1A/SLC6A3/ADRB2/SLC6A4/ESR2/MAPK14/GSK3B/MAOB/CHEK1/PRSS1/CCNA2/PK1A/ACHE/JUN/PPARG/IL4/ATP5F1B/ND6/HSD3B2/HSD3B1</i>
MOL000398	isoflavanone	109.99	0.3	RA	
MOL000417	Calycosin	47.75	0.24	RA	<i>NOS2/PTGS1/ESR1/AR/PPARG/PTGS2/RXRA/ESR2/MAPK14/GSK3B/CHEK1/PRSS1/CCNA2/NCOA2/ADRB2</i>

Table S2 (continued)

Table S2 (continued)

Mol ID	Compound	OB (%)	DL	Herb	Gene Symbol
MOL000422	kaempferol	41.88	0.24	RA	NOS2/PTGS1/AR/PPARG/PTGS2/NCOA2/ PRSS1/PGR/CHRM1/ACHE/SLC6A2/CHRM2/ ADRA1B/GABRA1/F7/RELA/IKKBK/AKT1/BCL2/ BAX/TNFSF15/JUN/AHSA1/CASP3/MAPK8/ MMP1/STAT1/PPARG/HMOX1/CYP3A4/CYP1A2/ CYP1A1/ICAM1/SELE/VCAM1/NR1I2/CYP1B1/ ALOX5/HAS2/GSTP1/AHR/PSMD3/SLC2A4/ NR1I3/INSR/DIO1/PPP3CA/GSTM1/GSTM2/ AKR1C3/SLPI
MOL000433	FA	68.96	0.71	RA	GSK3B
MOL000438	(3R)-3-(2-hydroxy-3,4-dimethoxyphenyl)chroman-7-ol	67.67	0.26	RA	
MOL000439	isomucronulatol-7,2'-di-O-glucosiole	49.28	0.62	RA	
MOL000442	1,7-Dihydroxy-3,9-dimethoxy pterocarpene	39.05	0.48	RA	PTGS2/RXRA/PRSS1
MOL000098	quercetin	46.43	0.28	RA & SC	PTGS1/AR/PPARG/PTGS2/NCOA2/AKR1B1/ PRSS1/KCNH2/SCN5A/ADRB2/MMP3/F7/RXRA/ ACHE/GABRA1/MAOB/RELA/EGFR/AKT1/ VEGFA/CCND1/BCL2/BCL2L1/FOS/CDKN1A/ EIF6/BAX/CASP9/PLAU/MMP2/MMP9/MAPK1/ IL10/EGF/RB1/TNFSF15/JUN/IL6/AHSA1/ CASP3/TP63/ELK1/NFKBIA/POR/ODC1/CASP8/ TOP1/RAF1/SOD1/PRKCA/MMP1/HIF1A/STAT1/ RUNX1T1/ERBB2/ACACA/HMOX1/CYP3A4/ CYP1A2/CAV1/MYC/F3/GJA1/CYP1A1/ICAM1/ IL1B/CCL2/SELE/VCAM1/PTGER3/CXCL8/ PRKCB/BIRC5/DUOX2/NOS3/HSPB1/SULT1E1/ MGAM/IL2/NR1I2/CYP1B1/CCNB1/PLAT/THBD/ SERPINE1/COL1A1/IFNG/ALOX5/IL1A/MPO/ TOP2A/NCF1/ABCG2/HAS2/GSTP1/NFE2L2/ NQO1/PARP1/AHR/PSMD3/SLC2A4/COL3A1/ CXCL11/CXCL2/DCAF5/NR1I3/CHEK2/INSR/ CLDN4/PPARA/PPARD/HSF1/CRP/CXCL10/ CHUK/SPP1/RUNX2/RASSF1/E2F1/E2F2/ACPP/ CTSD/IGFBP3/IGF2/CD40LG/IRF1/ERBB3/ PON1/DIO1/PCOLCE/NPEPPS/HK2/RASA1/ GSTM1/GSTM2
MOL000358	beta-sitosterol	36.91	0.75	SC	PGR/NCOA2/PTGS1/PTGS2/KCNH2/CHRM3/ CHRM1/SCN5A/CHRM4/ADRA1A/CHRM2/ ADRA1B/ADRB2/CHRNA2/SLC6A4/OPRM1/ GABRA1/BCL2/BAX/CASP9/JUN/CASP3/ CASP8/PRKCA/PON1/MAP2
MOL005320	arachidonate	45.57	0.2	SC	PTGS1/PTGS2/RXRG/NCOA2
MOL005384	suchilactone	57.52	0.56	SC	KCNH2/SCN5A/PTGS2/F7/ADRB2/NCOA1/ PTGS1/RXRA/ADRA1D
MOL007563	Yangambin	57.53	0.81	SC	KCNH2/SCN5A/PTGS2/CACNA1S/NCOA2

Table S2 (continued)

Table S2 (continued)

Mol ID	Compound	OB (%)	DL	Herb	Gene Symbol
MOL008871	Marckine	37.05	0.69	SC	<i>PTGS2</i>
MOL000953	Cholesterol	37.87	0.68	Musk	<i>PGR/NR3C2/NCOA2</i>
MOL000737	morin	46.23	0.27	Musk	<i>PTGS1/AR/PPARG/PTGS2/TOP1/EDN3/ABCB1/ALOX5/CD36/DIO1/BATF3</i>
MOL010919	17-beta-estradiol	12.41	0.32	Musk	<i>CHRM3/CHRM1/CHRM5/CHRM4/RXRA/ACHE/ADRA1A/CHRM2/SLC6A3/ADRB2/ADRA1D/SLC6A4/OPRM1/AKT1/BCL2/BCL2L1/CDKN1A/MMP2/MAPK1/FGF13/TNFSF15/CASP3/CASP8/SOD1/CAT/PRKCA/TEP1/MMP1/MMP13/EDNRA/CYP3A4/CAV1/CASP7/CYP1A1/IL1B/NGF/SELE/VCAM1/PRKCD/FN1/LITAF/GABBR1/TYR/IFNG/ABCG2/GSTP1/SMAD2/HSF1/PCOLCE/PGR/CXCL12/CXCR4/PTGES/AKR1B1/KLK3/CDC37/APOA1/SMAD3/BGLAP/LEP/ITGAM/GPER1/TSHB/CSF3R/TGFBR2/ELN/FBN1/NOTCH1/JAG1/HSPA2/NCOA1/OCLN/DUSP1/ACP5/CASP6/PCDHGB3/KLK10</i>
MOL001232	TES	12.93	0.35	Musk	<i>RXRA/PGR/AKR1C3</i>
MOL000050	GLY	48.74	0	Musk	<i>PTGS1/PTGS2/F7/KYNU/AKR1B1/GABRA1/SLC6A9/CTSD</i>

TCMSP, Traditional Chinese Medicine Systems Pharmacology; OB, oral bioavailability; DL, drug-likeness; RSM, Radix Salviae Miltiorrhiza; RA, Radix Astragali; SC, Saline Cistanche.

Table S3 A total of 280 CSM-related target genes

Gene Symbol			
<i>TP53</i>	Tumor Protein P53	IFNG	Interferon Gamma
<i>FGFR3</i>	Fibroblast Growth Factor Receptor 3	IDUA	Alpha-L-Iduronidase
<i>COL2A1</i>	Collagen Type II Alpha 1 Chain	ACAN	Aggrecan
<i>MTHFR</i>	Methylenetetrahydrofolate Reductase	CXCL8	C-X-C Motif Chemokine Ligand 8
<i>PRKN</i>	Parkin RBR E3 Ubiquitin Protein Ligase	DKK1	Dickkopf WNT Signaling Pathway Inhibitor 1
<i>BAX</i>	BCL2 Associated X, Apoptosis Regulator	MAPT	Microtubule Associated Protein Tau
<i>HLA-DQB1</i>	Major Histocompatibility Complex, Class II, DQ Beta 1	TRPV4	Transient Receptor Potential Cation Channel Subfamily V Member 4
<i>IL6</i>	Interleukin 6	TGFB3	Transforming Growth Factor Beta 3
<i>HLA-DRB1</i>	Major Histocompatibility Complex, Class II, DR Beta 1	HLA-A	Major Histocompatibility Complex, Class I, A
<i>APOE</i>	Apolipoprotein E	CRP	C-Reactive Protein
<i>VEGFA</i>	Vascular Endothelial Growth Factor A	MTOR	Mechanistic Target Of Rapamycin Kinase
<i>MMP2</i>	Matrix Metalloproteinase 2	CYCS	Cytochrome C, Somatic
<i>TNF</i>	Tumor Necrosis Factor	SLC26A2	Solute Carrier Family 26 Member 2
<i>MMP3</i>	Matrix Metalloproteinase 3	BMP4	Bone Morphogenetic Protein 4
<i>IL1B</i>	Interleukin 1 Beta	TIMP3	TIMP Metalloproteinase Inhibitor 3
<i>IL10</i>	Interleukin 10	IL2	Interleukin 2
<i>COL1A1</i>	Collagen Type I Alpha 1 Chain	IL1RN	Interleukin 1 Receptor Antagonist
<i>COL11A2</i>	Collagen Type XI Alpha 2 Chain	TIMP1	TIMP Metalloproteinase Inhibitor 1
<i>COMP</i>	Cartilage Oligomeric Matrix Protein	TIMP2	TIMP Metalloproteinase Inhibitor 2
<i>MMP9</i>	Matrix Metalloproteinase 9	EXT2	Exostosin Glycosyltransferase 2
<i>GALNS</i>	Galactosamine (N-Acetyl)-6-Sulfatase	H19	H19 Imprinted Maternally Expressed Transcript
<i>HIF1A</i>	Hypoxia Inducible Factor 1 Subunit Alpha	TNFRSF1B	TNF Receptor Superfamily Member 1B
<i>ARSB</i>	Arylsulfatase B	MPO	Myeloperoxidase
<i>HLA-B</i>	Major Histocompatibility Complex, Class I, B	TNFRSF1A	TNF Receptor Superfamily Member 1A
<i>COL9A2</i>	Collagen Type IX Alpha 2 Chain	IDS	Iduronate 2-Sulfatase
<i>VDR</i>	Vitamin D Receptor	FAS	Fas Cell Surface Death Receptor
<i>COL9A3</i>	Collagen Type IX Alpha 3 Chain	FXN	Frataxin
<i>MYC</i>	MYC Proto-Oncogene, BHLH Transcription Factor	MTR	5-Methyltetrahydrofolate-Homocysteine Methyltransferase
<i>BMP2</i>	Bone Morphogenetic Protein 2	BDNF	Brain Derived Neurotrophic Factor
<i>ESR1</i>	Estrogen Receptor 1	MBP	Myelin Basic Protein
<i>CREBBP</i>	CREB Binding Protein	IL17A	Interleukin 17A
<i>AKT1</i>	AKT Serine/Threonine Kinase 1	ALB	Albumin
<i>MAPK1</i>	Mitogen-Activated Protein Kinase 1	H2AC18	H2A Clustered Histone 18

Table S3 (continued)

Table S3 (continued)

Gene Symbol			
<i>APP</i>	Amyloid Beta Precursor Protein	PRNP	Prion Protein
<i>GUSB</i>	Glucuronidase Beta	CD4	CD4 Molecule
<i>CALCA</i>	Calcitonin Related Polypeptide Alpha	RUNX2	RUNX Family Transcription Factor 2
<i>COL9A1</i>	Collagen Type IX Alpha 1 Chain	IL4	Interleukin 4
<i>PSEN1</i>	Presenilin 1	SOD1	Superoxide Dismutase 1
<i>ENO2</i>	Enolase 2	NFKB1	Nuclear Factor Kappa B Subunit 1
<i>FOXP3</i>	Forkhead Box P3	SPP1	Secreted Phosphoprotein 1
<i>NOS2</i>	Nitric Oxide Synthase 2	SERPINH1	Serpin Family H Member 1
<i>DCN</i>	Decorin	CCR6	C-C Motif Chemokine Receptor 6
<i>DPYSL5</i>	Dihydropyrimidinase Like 5	GFAP	Glial Fibrillary Acidic Protein
<i>IL1A</i>	Interleukin 1 Alpha	COL1A2	Collagen Type I Alpha 2 Chain
<i>EXT1</i>	Exostosin Glycosyltransferase 1	NGF	Nerve Growth Factor
<i>S100B</i>	S100 Calcium Binding Protein B	B2M	Beta-2-Microglobulin
<i>RMRP</i>	RNA Component Of Mitochondrial RNA Processing Endoribonuclease	JUN	Jun Proto-Oncogene, AP-1 Transcription Factor Subunit
<i>CCL2</i>	C-C Motif Chemokine Ligand 2	TTPA	Alpha Tocopherol Transfer Protein
<i>FGF2</i>	Fibroblast Growth Factor 2	EXOC1	Exocyst Complex Component 1
<i>ABCD1</i>	ATP Binding Cassette Subfamily D Member 1	STAT1	Signal Transducer And Activator Of Transcription 1
<i>BTBD</i>	Biotinidase	HTT	Huntingtin
<i>SNCA</i>	Synuclein Alpha	CD8A	CD8a Molecule
<i>SERPINA3</i>	Serpin Family A Member 3	CDC42	Cell Division Cycle 42
<i>CD40</i>	CD40 Molecule	CD36	CD36 Molecule
<i>AQP4</i>	Aquaporin 4	HMOX1	Heme Oxygenase 1
<i>IL2RA</i>	Interleukin 2 Receptor Subunit Alpha	BCL2L1	BCL2 Like 1
<i>SLC2A1</i>	Solute Carrier Family 2 Member 1	TSC1	TSC Complex Subunit 1
<i>IL18</i>	Interleukin 18	CDKN1A	Cyclin Dependent Kinase Inhibitor 1A
<i>MOG</i>	Myelin Oligodendrocyte Glycoprotein	HMGCR	3-Hydroxy-3-Methylglutaryl-CoA Reductase
<i>CCL5</i>	C-C Motif Chemokine Ligand 5	CTSB	Cathepsin B
<i>MAPK8</i>	Mitogen-Activated Protein Kinase 8	LMNB1	Lamin B1
<i>COL6A1</i>	Collagen Type VI Alpha 1 Chain	CRYAB	Crystallin Alpha B
<i>ENPP1</i>	Ectonucleotide Pyrophosphatase/ Phosphodiesterase 1	SMARCA4	SWI/SNF Related, Matrix Associated, Actin Dependent Regulator Of Chromatin, Subfamily A, Member 4
<i>PTH</i>	Parathyroid Hormone	HTRA1	HtrA Serine Peptidase 1
<i>BGLAP</i>	Bone Gamma-Carboxyglutamate Protein	NTRK1	Neurotrophic Receptor Tyrosine Kinase 1

Table S3 (continued)

Table S3 (continued)

Gene Symbol			
<i>MATN3</i>	Matrilin 3	IL15	Interleukin 15
<i>HLA-G</i>	Major Histocompatibility Complex, Class I, G	ANKH	ANKH Inorganic Pyrophosphate Transport Regulator
<i>RPS27A</i>	Ribosomal Protein S27a	IL5	Interleukin 5
<i>BMP7</i>	Bone Morphogenetic Protein 7	CHAT	Choline O-Acetyltransferase
<i>FUCA1</i>	Alpha-L-Fucosidase 1	CSF2	Colony Stimulating Factor 2
<i>CD274</i>	CD274 Molecule	GC	GC Vitamin D Binding Protein
<i>KL</i>	Klotho	ARSH	Arylsulfatase Family Member H
<i>CDK5</i>	Cyclin Dependent Kinase 5	SERPINC1	Serpin Family C Member 1
<i>PCNA</i>	Proliferating Cell Nuclear Antigen	F2	Coagulation Factor II, Thrombin
<i>IFNA1</i>	Interferon Alpha 1	RHOA	Ras Homolog Family Member A
<i>CNTF</i>	Ciliary Neurotrophic Factor	CD28	CD28 Molecule
<i>RAD51</i>	RAD51 Recombinase	F5	Coagulation Factor V
<i>ICAM1</i>	Intercellular Adhesion Molecule 1	HTR2A	5-Hydroxytryptamine Receptor 2A
<i>LTA</i>	Lymphotoxin Alpha	IL13	Interleukin 13
<i>PLP1</i>	Proteolipid Protein 1	CD40LG	CD40 Ligand
<i>CCL3</i>	C-C Motif Chemokine Ligand 3	GZMB	Granzyme B
<i>XPO1</i>	Exportin 1	GSN	Gelsolin
<i>TTR</i>	Transthyretin	ITGA4	Integrin Subunit Alpha 4
<i>PTPRC</i>	Protein Tyrosine Phosphatase Receptor Type C	AIFM1	Apoptosis Inducing Factor Mitochondria Associated 1
<i>ACTA2</i>	Actin Alpha 2, Smooth Muscle	SLC6A3	Solute Carrier Family 6 Member 3
<i>GSK3B</i>	Glycogen Synthase Kinase 3 Beta	TGIF1	TGFB Induced Factor Homeobox 1
<i>CTLA4</i>	Cytotoxic T-Lymphocyte Associated Protein 4	CNP	2',3'-Cyclic Nucleotide 3' Phosphodiesterase
<i>NBAS</i>	NBAS Subunit Of NRZ Tethering Complex	CX3CR1	C-X3-C Motif Chemokine Receptor 1
<i>ARSA</i>	Arylsulfatase A	WRN	WRN RecQ Like Helicase
<i>HNRNPA1</i>	Heterogeneous Nuclear Ribonucleoprotein A1	MICB	MHC Class I Polypeptide-Related Sequence B
<i>TBP</i>	TATA-Box Binding Protein	GJA1	Gap Junction Protein Alpha 1
<i>ATP7A</i>	ATPase Copper Transporting Alpha	CCL4	C-C Motif Chemokine Ligand 4
<i>TARDBP</i>	TAR DNA Binding Protein	ANGPT2	Angiopoietin 2
<i>SELE</i>	Selectin E	NEU1	Neuraminidase 1
<i>CCR5</i>	C-C Motif Chemokine Receptor 5	ALPP	Alkaline Phosphatase, Placental
<i>ANXA5</i>	Annexin A5	PRF1	Perforin 1
<i>VCAM1</i>	Vascular Cell Adhesion Molecule 1	TKT	Transketolase

Table S3 (continued)

Table S3 (continued)

Gene Symbol			
<i>TIA1</i>	TIA1 Cytotoxic Granule Associated RNA Binding Protein	HSP90AA1	Heat Shock Protein 90 Alpha Family Class A Member 1
<i>PDCD1</i>	Programmed Cell Death 1	GLUD1	Glutamate Dehydrogenase 1
<i>CXCR3</i>	C-X-C Motif Chemokine Receptor 3	OPRM1	Opioid Receptor Mu 1
<i>GDNF</i>	Glial Cell Derived Neurotrophic Factor	HNRNPA2B1	Heterogeneous Nuclear Ribonucleoprotein A2/B1
<i>COL10A1</i>	Collagen Type X Alpha 1 Chain	CNR1	Cannabinoid Receptor 1
<i>ADAMTSL1</i>	ADAMTS Like 1	NEFH	Neurofilament Heavy Chain
<i>TIMP4</i>	TIMP Metallopeptidase Inhibitor 4	SLC1A3	Solute Carrier Family 1 Member 3
<i>IHH</i>	Indian Hedgehog Signaling Molecule	SLC6A4	Solute Carrier Family 6 Member 4
<i>TF</i>	Transferrin	MIR199B	MicroRNA 199b
<i>EPRS1</i>	Glutamyl-Prolyl-TRNA Synthetase 1	SOX2-OT	SOX2 Overlapping Transcript
<i>FMOD</i>	Fibromodulin	TBK1	TANK Binding Kinase 1
<i>AFP</i>	Alpha Fetoprotein	GARS1	Glycyl-TRNA Synthetase 1
<i>NTF3</i>	Neurotrophin 3	HAVCR2	Hepatitis A Virus Cellular Receptor 2
<i>TSC2</i>	TSC Complex Subunit 2	PTH1R	Parathyroid Hormone 1 Receptor
<i>AGER</i>	Advanced Glycosylation End-Product Specific Receptor	PIGA	Phosphatidylinositol Glycan Anchor Biosynthesis Class A
<i>BMP1</i>	Bone Morphogenetic Protein 1	ITGAL	Integrin Subunit Alpha L
<i>SUMF1</i>	Sulfatase Modifying Factor 1	CALR	Calreticulin
<i>HMGB1</i>	High Mobility Group Box 1	SLC1A2	Solute Carrier Family 1 Member 2
<i>BMPRI1A</i>	Bone Morphogenetic Protein Receptor Type 1A	STAT5A	Signal Transducer And Activator Of Transcription 5A
<i>IFNB1</i>	Interferon Beta 1	CCL11	C-C Motif Chemokine Ligand 11
<i>CREB1</i>	CAMP Responsive Element Binding Protein 1	ITIH4	Inter-Alpha-Trypsin Inhibitor Heavy Chain 4
<i>MAOB</i>	Monoamine Oxidase B	SLC18A2	Solute Carrier Family 18 Member A2
<i>TAC1</i>	Tachykinin Precursor 1	PTH1H	Parathyroid Hormone Like Hormone
<i>BACE1</i>	Beta-Secretase 1	ITGB2	Integrin Subunit Beta 2
<i>CYP2D6</i>	Cytochrome P450 Family 2 Subfamily D Member 6	ZBTB16	Zinc Finger And BTB Domain Containing 16
<i>HCRT</i>	Hypocretin Neuropeptide Precursor	DNAH8	Dynein Axonemal Heavy Chain 8
<i>DDX41</i>	DEAD-Box Helicase 41	GRM1	Glutamate Metabotropic Receptor 1
<i>CASP3</i>	Caspase 3	APOH	Apolipoprotein H
<i>CHST3</i>	Carbohydrate Sulfotransferase 3	SLC6A2	Solute Carrier Family 6 Member 2
<i>ANXA6</i>	Annexin A6	CAPN2	Calpain 2
<i>MDK</i>	Midkine	DNTT	DNA Nucleotidylexotransferase
<i>RHOD</i>	Ras Homolog Family Member D	PRDX1	Peroxiredoxin 1

Table S3 (continued)

Table S3 (continued)

Gene Symbol			
<i>ST3</i>	Suppression Of Tumorigenicity 3	PROM1	Prominin 1
<i>TGFB1</i>	Transforming Growth Factor Beta 1	CCR1	C-C Motif Chemokine Receptor 1
<i>CHUK</i>	Component Of Inhibitor Of Nuclear Factor Kappa B CREB3 Kinase Complex		CAMP Responsive Element Binding Protein 3
<i>DRD2</i>	Dopamine Receptor D2	ELAVL4	ELAV Like RNA Binding Protein 4
<i>AVPR2</i>	Arginine Vasopressin Receptor 2	REG1A	Regenerating Family Member 1 Alpha
<i>XDH</i>	Xanthine Dehydrogenase	FOS	Fos Proto-Oncogene, AP-1 Transcription Factor Subunit
<i>CACNA1A</i>	Calcium Voltage-Gated Channel Subunit Alpha1 A	PTPN13	Protein Tyrosine Phosphatase Non-Receptor Type 13
<i>COL6A6</i>	Collagen Type VI Alpha 6 Chain	HCCS	Holocytochrome C Synthase
<i>IL17RC</i>	Interleukin 17 Receptor C	SEMA6A	Semaphorin 6A
<i>ATXN3</i>	Ataxin 3	FASLG	Fas Ligand
<i>TH</i>	Tyrosine Hydroxylase	ACHE	Acetylcholinesterase

CSM, cervical spondylotic myelopathy.

Table S4 Detailed information on 53 target genes in the PPI network

Gene symbol (Target)	Degree	Betweenness Centrality	Closeness Centrality	UniProt ID	Target name
IL6	33	0.070776979	0.684210526	P05231	Interleukin-6
AKT1	31	0.098266869	0.65	P31749	AKT serine/threonine kinase 1
JUN	28	0.047069746	0.634146341	P05412	Transcription factor AP-1
CXCL8	28	0.154890009	0.658227848	P10145	C-X-C motif chemokine ligand 8
VEGFA	28	0.054655425	0.641975309	P15692	Vascular endothelial growth factor A
IL1B	27	0.024322703	0.619047619	P01584	Interleukin-1 beta
MAPK8	26	0.047016417	0.619047619	P45983	Mitogen-activated protein kinase 8
CCL2	26	0.016985801	0.611764706	P13500	C-C motif chemokine 2
MAPK1	25	0.034682244	0.611764706	P28482	Mitogen-activated protein kinase 1
ICAM1	23	0.012918565	0.590909091	P05362	Intercellular adhesion molecule 1
IL10	22	0.008381957	0.577777778	P22301	Interleukin-10
MMP9	21	0.018285701	0.571428571	P14780	Matrix metalloproteinase-9
STAT1	20	0.017051734	0.547368421	P42224	Signal transducer and activator of transcription 1
IL4	19	0.042728768	0.553191489	P05112	Interleukin-4
IL2	19	0.005335698	0.559139785	P60568	Interleukin-2
FOS	18	0.016126953	0.559139785	P01100	Proto-oncogene c-Fos
MYC	18	0.016227643	0.559139785	P01106	Myc proto-oncogene protein
HMOX1	18	0.010557918	0.553191489	P09601	Heme oxygenase 1
CASP3	16	0.012374631	0.547368421	P42574	Caspase-3
MMP2	16	0.010989907	0.541666667	P08253	Matrix metalloproteinase-2
IFNG	15	0.004030982	0.52	P01579	Interferon gamma
VCAM1	15	0.003172345	0.536082474	P29533	Vascular cell adhesion molecule 1
IL1A	14	0.009791488	0.509803922	P01583	Interleukin-1 alpha
APP	14	0.097708698	0.559139785	P05067	Amyloid-beta precursor protein
ESR1	13	0.029961754	0.504854369	P03372	Estrogen receptor 1
CRP	13	0.001191280	0.5	P02741	C-reactive protein
SELE	13	0.001387722	0.509803922	P16581	E-selectin
SPP1	12	0.024751413	0.525252525	P10451	Secreted phosphoprotein 1
NGF	11	0.007358082	0.509803922	P01138	Nerve growth factor
CD40LG	11	0.001137256	0.485981308	P29965	CD40 ligand
RUNX2	10	0.016702605	0.481481481	Q13950	Runt-related transcription factor 2
BCL2L1	9	0.002900018	0.5	P07817	Bcl-2-like protein 1
HIF1A	9	0.001365322	0.47706422	Q16665	Hypoxia-inducible factor 1-alpha
MMP3	9	0.000301015	0.485981308	P08254	Matrix metalloproteinase-3

Table S4 (continued)

Table S4 (continued)

Gene symbol (Target)	Degree	Betweenness Centrality	Closeness Centrality	UniProt ID	Target name
MPO	9	0.000075415	0.47706422	P05164	Myeloperoxidase
CDKN1A	8	0.011154689	0.456140351	P38936	Cyclin-dependent kinase inhibitor 1
NOS2	8	0.000637683	0.468468468	P35228	Nitric oxide synthase
DRD2	6	0.148567119	0.460176991	P14416	D(2) dopamine receptor
GSK3B	5	0.000772650	0.468468468	P49841	Glycogen synthase kinase-3 beta
COL1A1	5	0.003499825	0.433333333	P02452	Collagen alpha-1
SOD1	5	0.000349841	0.464285714	P00441	Superoxide dismutase 1
BAX	4	0.000031423	0.419354839	Q07812	Apoptosis regulator BAX
OPRM1	4	0.002713683	0.460176991	P35372	Mu-type opioid receptor 1
CHUK	3	0.000350509	0.433333333	015111	Conserved helix-loop-helix ubiquitous kinase
BGLAP	3	0.000150830	0.366197183	P02818	Bone Gla protein
GJA1	3	0.000034279	0.433333333	P17302	Gap junction alpha-1
PCNA	2	0	0.342105263	P12004	Proliferating cell nuclear antigen
SLC6A3	2	0.038461538	0.320987654	Q01959	Solute carrier family 6 member 3
CD36	1	0	0.35862069	Q13965	Thrombospondin receptor
SLC6A4	1	0	0.317073171	P31645	Solute carrier family 6 member 4
ACHE	1	0	0.361111111	P22303	Acetylcholinesterase
SLC6A2	1	0	0.317073171	P23975	Solute carrier family 6 member 2
MAOB	1	0	0.244131455	P27338	Monoamine oxidase type B

PPI, protein-protein interaction.