

**Supplementary Table 1 Ginger main components-target name**

<b>Mol ID</b>	<b>Molecule name</b>	<b>Target name</b>
MOL001566	Calarene	Muscarinic acetylcholine receptor M3
MOL002467	6-gingerol	Muscarinic acetylcholine receptor M1
MOL002467	6-gingerol	Estrogen receptor
MOL002467	6-gingerol	Beta-1 adrenergic receptor
MOL002467	6-gingerol	Sodium channel protein type 5 subunit alpha
MOL002467	6-gingerol	Acetylcholinesterase
MOL002467	6-gingerol	CGMP-inhibited 3',5'-cyclic phosphodiesterase A
MOL002467	6-gingerol	Sodium-dependent noradrenaline transporter
MOL002467	6-gingerol	Alpha-1A adrenergic receptor
MOL002467	6-gingerol	Alpha-1B adrenergic receptor
MOL002467	6-gingerol	Sodium-dependent dopamine transporter
MOL002467	6-gingerol	Beta-2 adrenergic receptor
MOL002467	6-gingerol	Sodium-dependent serotonin transporter
MOL002467	6-gingerol	Beta-lactamase
MOL002467	6-gingerol	Leukotriene A-4 hydrolase
MOL002467	6-gingerol	Transcription factor p65
MOL002467	6-gingerol	Apoptosis regulator Bcl-2
MOL002467	6-gingerol	Apoptosis regulator BAX
MOL002467	6-gingerol	Caspase-9
MOL002467	6-gingerol	Transcription factor AP-1
MOL002467	6-gingerol	Caspase-3
MOL002467	6-gingerol	Prostaglandin G/H synthase 2

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MOL002467	6-gingerol	Peroxisome proliferator-activated receptor gamma
MOL002495	6-shogaol	Apoptosis regulator Bcl-2
MOL002495	6-shogaol	Bcl-2-like protein 1
MOL002495	6-shogaol	Apoptosis regulator BAX
MOL002495	6-shogaol	Fatty acid synthase
MOL002495	6-shogaol	Peroxisome proliferator-activated receptor gamma
MOL002495	6-shogaol	Tumor necrosis factor ligand superfamily member 6
MOL002495	6-shogaol	DNA damage-inducible transcript 3 protein
MOL000358	Beta-sitosterol	Progesterone receptor
MOL000358	Beta-sitosterol	Nuclear receptor coactivator 2
MOL000358	Beta-sitosterol	Prostaglandin G/H synthase 1
MOL000358	Beta-sitosterol	Prostaglandin G/H synthase 2
MOL000358	Beta-sitosterol	Heat shock protein HSP 90
MOL000358	Beta-sitosterol	Potassium voltage-gated channel subfamily H member 2
MOL000358	Beta-sitosterol	Dopamine D1 receptor
MOL000358	Beta-sitosterol	Muscarinic acetylcholine receptor M3
MOL000358	Beta-sitosterol	Muscarinic acetylcholine receptor M1
MOL000358	Beta-sitosterol	Sodium channel protein type 5 subunit alpha
MOL000358	Beta-sitosterol	CGMP-inhibited 3',5'-cyclic phosphodiesterase A
MOL000358	Beta-sitosterol	5-hydroxytryptamine 2A

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		receptor
MOL000358	Beta-sitosterol	Alpha-1A adrenergic receptor
MOL000358	beta-sitosterol	Muscarinic acetylcholine receptor M2
MOL000358	Beta-sitosterol	Alpha-1B adrenergic receptor
MOL000358	Beta-sitosterol	Beta-2 adrenergic receptor
MOL000358	Beta-sitosterol	Neuronal acetylcholine receptor subunit alpha-2
MOL000358	Beta-sitosterol	Sodium-dependent serotonin transporter
MOL000358	Beta-sitosterol	Gamma-aminobutyric acid receptor subunit alpha-1
MOL006129	6-methylgingediac etate2	Prostaglandin G/H synthase 2
MOL006129	6-methylgingediac etate2	Calmodulin
MOL000066	Alloaromadedrene	Muscarinic acetylcholine receptor M3
MOL000066	Alloaromadedrene	Muscarinic acetylcholine receptor M2
MOL000066	Alloaromadedrene	Gamma-aminobutyric acid receptor subunit alpha-1
MOL000066	Alloaromadedrene	Muscarinic acetylcholine receptor M1
MOL000066	Alloaromadedrene	Neuronal acetylcholine receptor subunit alpha-2
MOL000025	$\alpha$ -Longipinene	Muscarinic acetylcholine receptor M3
MOL000025	$\alpha$ -Longipinene	Prostaglandin G/H synthase 2
MOL000025	$\alpha$ -Longipinene	Gamma-aminobutyric acid receptor subunit alpha-1

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MOL000131	EIC	Prostaglandin G/H synthase 1
MOL000131	EIC	Prostaglandin G/H synthase 2
MOL000131	EIC	Retinoic acid receptor RXR-alpha
MOL000131	EIC	Nuclear receptor coactivator 2
MOL000131	EIC	Lysozyme
MOL000131	EIC	Sodium-dependent noradrenaline transporter
MOL000131	EIC	Gamma-aminobutyric acid receptor subunit alpha-1
MOL000131	EIC	Transient receptor potential cation channel subfamily V member 1
MOL000131	EIC	Muscarinic acetylcholine receptor M1
MOL000131	EIC	Muscarinic acetylcholine receptor M2
MOL000208	()-Aromadendrene	Muscarinic acetylcholine receptor M3
MOL000208	()-Aromadendrene	Muscarinic acetylcholine receptor M2
MOL000208	()-Aromadendrene	Muscarinic acetylcholine receptor M1
MOL000208	()-Aromadendrene	Alcohol dehydrogenase 1C
MOL000266	Beta-Cubebene	Muscarinic acetylcholine receptor M1
MOL000266	Beta-Cubebene	Muscarinic acetylcholine receptor M2
MOL000266	Beta-Cubebene	Gamma-aminobutyric acid receptor subunit alpha-1
MOL000266	Beta-Cubebene	Prostaglandin G/H synthase 2

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MOL000266	Beta-Cubebene	Neuronal acetylcholine receptor subunit alpha-2
MOL000266	Beta-Cubebene	Sodium-dependent noradrenaline transporter
MOL000432	Linolenic acid	Prostaglandin G/H synthase 1
MOL000432	Linolenic acid	Prostaglandin G/H synthase 2
MOL000432	Linolenic acid	Retinoic acid receptor RXR-alpha
MOL000432	Linolenic acid	Nuclear receptor coactivator 2
MOL000449	Stigmasterol	Progesterone receptor
MOL000449	Stigmasterol	Nuclear receptor coactivator 2
MOL000449	Stigmasterol	Alcohol dehydrogenase 1C
MOL000449	Stigmasterol	Retinoic acid receptor RXR-alpha
MOL000449	Stigmasterol	Prostaglandin G/H synthase 1
MOL000449	Stigmasterol	Prostaglandin G/H synthase 2
MOL000449	Stigmasterol	Sodium-dependent noradrenaline transporter
MOL000449	Stigmasterol	Sodium-dependent dopamine transporter
MOL000449	Stigmasterol	Beta-2 adrenergic receptor
MOL000449	Stigmasterol	Leukotriene A-4 hydrolase
MOL000449	Stigmasterol	Amine oxidase [flavin-containing] B
MOL000449	Stigmasterol	Muscarinic acetylcholine receptor M3
MOL000449	Stigmasterol	Muscarinic acetylcholine receptor M1
MOL000449	Stigmasterol	Beta-1 adrenergic receptor
MOL000449	Stigmasterol	5-hydroxytryptamine 2A receptor
MOL000449	Stigmasterol	Alpha-1A adrenergic receptor

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MOL000449	Stigmasterol	Muscarinic acetylcholine receptor M2
MOL000449	Stigmasterol	Alpha-1B adrenergic receptor
MOL000449	Stigmasterol	Gamma-aminobutyric acid receptor subunit alpha-1
MOL000474	(-)-Epoxy Caryophyllene	Muscarinic acetylcholine receptor M3
MOL000474	(-)-Epoxy Caryophyllene	Thrombin
MOL000474	(-)-Epoxy Caryophyllene	Muscarinic acetylcholine receptor M1
MOL000474	(-)-Epoxy Caryophyllene	Prostaglandin G/H synthase 2
MOL000474	(-)-Epoxy Caryophyllene	Muscarinic acetylcholine receptor M2
MOL000474	(-)-Epoxy Caryophyllene	Alpha-1B adrenergic receptor
MOL000474	(-)-Epoxy Caryophyllene	Gamma-aminobutyric acid receptor subunit alpha-1
MOL000474	(-)-Epoxy Caryophyllene	Dipeptidyl peptidase IV
MOL000612	(-)-alpha-cedrene	Muscarinic acetylcholine receptor M3
MOL000612	(-)-Alpha-cedrene	Prostaglandin G/H synthase 2
MOL000612	(-)-Alpha-cedrene	Retinoic acid receptor RXR-alpha
MOL000612	(-)-Alpha-cedrene	Gamma-aminobutyric acid receptor subunit alpha-1
MOL000612	(-)-Alpha-cedrene	Nuclear receptor coactivator 2
MOL000612	(-)-Alpha-cedrene	Muscarinic acetylcholine receptor M1
MOL000612	(-)-Alpha-cedrene	Alcohol dehydrogenase 1C

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MOL000676	DBP	Muscarinic receptor M3	acetylcholine
MOL000676	DBP	Muscarinic receptor M1	acetylcholine
MOL000676	DBP	Sodium-dependent noradrenaline transporter	
MOL000676	DBP	Sodium-dependent transporter	dopamine
MOL000676	DBP	Beta-2 adrenergic receptor	
MOL000676	DBP	Prostaglandin G/H synthase 1	
MOL000676	DBP	Prostaglandin G/H synthase 2	
MOL000676	DBP	Retinoic acid receptor RXR-alpha	
MOL000676	DBP	Heat shock protein HSP 90	
MOL000676	DBP	CGMP-inhibited phosphodiesterase A	3',5'-cyclic
MOL000676	DBP	Alpha-1A adrenergic receptor	
MOL000676	DBP	Muscarinic receptor M2	acetylcholine
MOL000676	DBP	Gamma-aminobutyric receptor subunit alpha-1	acid
MOL000935	Hepanal	Muscarinic receptor M3	acetylcholine
MOL000935	Hepanal	Muscarinic receptor M2	acetylcholine
MOL000935	Hepanal	Alcohol dehydrogenase 1C	
MOL000938	Calarene	Muscarinic receptor M1	acetylcholine
MOL000938	Calarene	Gamma-aminobutyric receptor subunit alpha-1	acid
MOL000938	Calarene	Muscarinic receptor M2	acetylcholine

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MOL001179	(&#8722;)-Alloaro madendrene	Muscarinic receptor M3	acetylcholine
MOL001179	(&#8722;)-Alloaro madendrene	Muscarinic receptor M1	acetylcholine
MOL001179	(&#8722;)-Alloaro madendrene	Muscarinic receptor M2	acetylcholine
MOL001179	(&#8722;)-Alloaro madendrene	Alpha-1B adrenergic receptor	
MOL001179	(&#8722;)-Alloaro madendrene	Neuronal acetylcholine receptor subunit alpha-2	
MOL001179	(&#8722;)-Alloaro madendrene	Nuclear receptor coactivator 2	
MOL001179	(&#8722;)-Alloaro madendrene	Retinoic acid receptor RXR-alpha	
MOL001179	(&#8722;)-Alloaro madendrene	Gamma-aminobutyric acid receptor subunit alpha-1	
MOL001390	49070_FLUKA	Muscarinic receptor M3	acetylcholine
MOL001390	49070_FLUKA	Muscarinic receptor M1	acetylcholine
MOL001390	49070_FLUKA	Muscarinic receptor M2	acetylcholine
MOL001390	49070_FLUKA	Gamma-aminobutyric acid receptor subunit alpha-1	
MOL001390	49070_FLUKA	Prostaglandin G/H synthase 2	
MOL001771	Poriferast-5-en-3be ta-ol	Nuclear receptor coactivator 2	

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MOL002153	1H-Cycloprop(e)azulen-7-ol, decahydro-1,1,7-trimethyl-4-methylene-, [1aR-(1aalpha,4alpha,7beta,7abeta,7balpha)]-	Muscarinic receptor M3	acetylcholine
MOL002153	1H-Cycloprop(e)azulen-7-ol, decahydro-1,1,7-trimethyl-4-methylene-, [1aR-(1aalpha,4alpha,7beta,7abeta,7balpha)]-	Muscarinic receptor M1	acetylcholine
MOL002153	1H-Cycloprop(e)azulen-7-ol, decahydro-1,1,7-trimethyl-4-methylene-, [1aR-(1aalpha,4alpha,7beta,7abeta,7balpha)]-	Muscarinic receptor M2	acetylcholine
MOL002186	Aromadendrene oxide 2	Muscarinic receptor M3	acetylcholine
MOL002186	Aromadendrene oxide 2	Muscarinic receptor M1	acetylcholine
MOL002186	Aromadendrene oxide 2	Muscarinic receptor M2	acetylcholine

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**Supplementary Table 2 Target name conversion**

<b>Query item</b>	<b>Preferred name</b>
Muscarinic acetylcholine receptor M1	CHRM3
Estrogen receptor	CHRM1
Beta-1 adrenergic receptor	ESR1
Sodium channel protein type 5 subunit alpha	ADRB1
Acetylcholinesterase	SCN5A
CGMP-inhibited 3',5'-cyclic phosphodiesterase A	ACHE
Sodium-dependent noradrenaline transporter	PDE3A
Alpha-1A adrenergic receptor	SLC6A2
Alpha-1B adrenergic receptor	ADRA1D
Sodium-dependent dopamine transporter	ADRA1B
Beta-2 adrenergic receptor	SLC6A3
Sodium-dependent serotonin transporter	ADRB2
Beta-lactamase	SLC6A4
Leukotriene A-4 hydrolase	LACTBL1
Transcription factor p65	LTA4H
Apoptosis regulator Bcl-2	RELA
Apoptosis regulator BAX	BCL2
Caspase-9	BAX
72 kDa type IV collagenase	CASP9
Caspase-3	JUN
Cellular tumor antigen p53	CASP3
Peroxisome proliferator-activated receptor gamma	PTGS2
Baculoviral IAP repeat-containing protein 5	PPARG
C-C motif chemokine 2	BCL2
Apoptosis regulator Bcl-2	BCL2L1
Bcl-2-like protein 1	BAX
Apoptosis regulator BAX	FASN
Fatty acid synthase	PPARG
Peroxisome proliferator-activated receptor gamma	FASLG

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Tumor necrosis factor ligand superfamily member 6	DDIT3
DNA damage-inducible transcript 3 protein	PGR
Muscarinic acetylcholine receptor M3	NCOA2
Progesterone receptor	PTGS1
Nuclear receptor coactivator 2	PTGS2
Prostaglandin G/H synthase 1	HSP90AA1
Heat shock protein HSP 90	DRD1
Dopamine D1 receptor	CHRM1
Muscarinic acetylcholine receptor M3	SCN5A
Muscarinic acetylcholine receptor M1	CHRM4
Sodium channel protein type 5 subunit alpha	PDE3A
5-hydroxytryptamine 2A receptor	CHRM2
Alpha-1A adrenergic receptor	ADRA1B
Alpha-1B adrenergic receptor	CHRNA2
Neuronal acetylcholine receptor subunit alpha-2	OPRM1
Sodium-dependent serotonin transporter	GABRA1
Mu-type opioid receptor	BCL2
Gamma-aminobutyric acid receptor subunit alpha-1	BAX
Apoptosis regulator Bcl-2	CASP9
Caspase-9	CASP3
Muscarinic acetylcholine receptor M1	CHRM3
Neuronal acetylcholine receptor subunit alpha-2	PTGS2
Muscarinic acetylcholine receptor M3	GABRA1
Prostaglandin G/H synthase 2	PTGS1
Gamma-aminobutyric acid receptor subunit alpha-1	PTGS2
Prostaglandin G/H synthase 1	RXRA
Prostaglandin G/H synthase 2	NCOA2
Retinoic acid receptor RXR-alpha	LYZ
Nuclear receptor coactivator 2	SLC6A2
Lysozyme	GABRA1
Sodium-dependent noradrenaline transporter	TRPV1

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Gamma-aminobutyric acid receptor subunit alpha-1	CHRM1
Transient receptor potential cation channel subfamily V member 1	CHRM2
Muscarinic acetylcholine receptor M1	CHRM3
Muscarinic acetylcholine receptor M2	CHRM2
Muscarinic acetylcholine receptor M2	ADH1C
Lysozyme	CHRM2
Muscarinic acetylcholine receptor M2	PTGS2
Gamma-aminobutyric acid receptor subunit alpha-1	CHRNA2
Prostaglandin G/H synthase 2	SLC6A2
Sodium-dependent noradrenaline transporter	PTGS2
Prostaglandin G/H synthase 1	RXRA
Prostaglandin G/H synthase 2	NCOA2
Retinoic acid receptor RXR-alpha	RXRG
Transient receptor potential cation channel subfamily V member 1	PCNA
Transcription factor p65	ALB
Proliferating cell nuclear antigen	MYC
Serum albumin	CALM2
Myc proto-oncogene protein	HNF4A
Calmodulin	UCP2
Hepatocyte nuclear factor 4-alpha	HNF1A
Mitochondrial uncoupling protein 2	ACTB
Hepatocyte nuclear factor 1-alpha	TRIM26
Actin, cytoplasmic 1	PGR
Aldose reductase	PLAU
Leukotriene A-4 hydrolase	MAOB
Amine oxidase [flavin-containing] B	MAOA
Chymotrypsinogen B	CHRM3
Muscarinic acetylcholine receptor M1	ADRB1
Beta-1 adrenergic receptor	SCN5A

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5-hydroxytryptamine 2A receptor	ADRA1D
Alpha-1A adrenergic receptor	CHRM2
Muscarinic acetylcholine receptor M2	ADRA1B
Muscarinic acetylcholine receptor M3	SERPIND1
Thrombin	CHRM1
Muscarinic acetylcholine receptor M2	ADRA1B
Alpha-1B adrenergic receptor	GABRA1
Gamma-aminobutyric acid receptor subunit alpha-1	DPP4
Muscarinic acetylcholine receptor M3	PTGS2
Prostaglandin G/H synthase 2	RXRA
Gamma-aminobutyric acid receptor subunit alpha-1	NCOA2
Nuclear receptor coactivator 2	CHRM1
Muscarinic acetylcholine receptor M1	ADH1B
Muscarinic acetylcholine receptor M3	CHRM1
Muscarinic acetylcholine receptor M1	SLC6A2
Sodium-dependent noradrenaline transporter	SLC6A3
Sodium-dependent dopamine transporter	ADRB2
Sodium-dependent serotonin transporter	PTGS1
Prostaglandin G/H synthase 1	PTGS2
Prostaglandin G/H synthase 2	RXRA
Retinoic acid receptor RXR-alpha	GSK3B
Heat shock protein HSP 90	LACTBL1
Beta-lactamase	PDE3A
Alpha-1A adrenergic receptor	CHRM2
Muscarinic acetylcholine receptor M2	HTR2A
5-hydroxytryptamine 2A receptor	GABRA1
Gamma-aminobutyric acid receptor subunit alpha-1	CHRM3
Muscarinic acetylcholine receptor M2	ADH1C
Alcohol dehydrogenase 1C	CHRM1
Muscarinic acetylcholine receptor M1	GABRA1
Gamma-aminobutyric acid receptor subunit alpha-1	GRIA2

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Glutamate receptor 2	SLC6A2
Sodium-dependent noradrenaline transporter	CHRM2
Muscarinic acetylcholine receptor M3	CHRM1
Muscarinic acetylcholine receptor M1	CHRM2
Alpha-1B adrenergic receptor	CHRNA2
Nuclear receptor coactivator 2	DRD1
Retinoic acid receptor RXR-alpha	HTR2A
5-hydroxytryptamine 2A receptor	SLC6A2
Sodium-dependent noradrenaline transporter	ADRA1D
Beta-2 adrenergic receptor	GABRA1
Muscarinic acetylcholine receptor M1	CHRM2
Muscarinic acetylcholine receptor M2	GABRA1
Gamma-aminobutyric acid receptor subunit alpha-1	PTGS2
Alcohol dehydrogenase 1C	PGR
Muscarinic acetylcholine receptor M1	CHRM2
Muscarinic acetylcholine receptor M1	CHRM2
Gamma-aminobutyric acid receptor subunit alpha-1	CHRM3
Muscarinic acetylcholine receptor M3	CHRM1
Muscarinic acetylcholine receptor M1	CHRM2
Muscarinic acetylcholine receptor M2	ADRA1B
Alpha-1B adrenergic receptor	GABRA1
Gamma-aminobutyric acid receptor subunit alpha-1	CHRNA2
Prostaglandin G/H synthase 2	GABRA1
CGMP-inhibited 3',5'-cyclic phosphodiesterase A	DPP4
Heat shock protein HSP 90	LTA4H
Leukotriene A-4 hydrolase	MAOB
Amine oxidase [flavin-containing] B	CHEK1
Serine/threonine-protein kinase Chk1	NCOA2
Nuclear receptor coactivator 2	PKIA
Muscarinic acetylcholine receptor M2	GABRA1
Prostaglandin G/H synthase 2	CHRM3

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Nuclear receptor coactivator 2	CHRM2
Gamma-aminobutyric acid receptor subunit alpha-1	PTGS2
Muscarinic acetylcholine receptor M2	CHRM1
Muscarinic acetylcholine receptor M3	PTGS2
Muscarinic acetylcholine receptor M1	RXRA

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