

Table S2. Terpenes of medicinal importance produced by transgenic hairy roots

Plant species	<i>A. rhizogenes</i> strains	Compounds	Biological activity	References
<i>Codonopsis lanceolata</i> Trautv.	R1000	Lancemaside A, foetidissimoside A, and aster saponin Hb	Andropause treatment, anti-inflammatory, and antitumor	Kim <i>et al.</i> (2011)
<i>Gentiana cruciata</i> L.	A4, 15834, 8196, and R1000	Gentiopicroside, loganic acid, swertiamarin, and sweroside	Cholagogue, hepatoprotective, and wound healing	Hayta <i>et al.</i> (2011)
<i>Gentiana macrophylla</i> Pall.	R1000 pRiA4b	Gentiopicroside	Treat diabetes, paralysis, and rheumatism	Wu <i>et al.</i> (2011)
<i>Glycyrrhiza inflata</i> Bat.	ATCC 15834	Glycyrrhizin	Antiherpetic	Wongwicha <i>et al.</i> (2011)
<i>Picrorhiza kurroa</i> Royle ex Benth.	A4 and PAT405	Picrotin and picrotoxinin	Used in hepatic disorders, gastric troubles, anemia, and asthma	Mishra <i>et al.</i> (2011)
<i>Taraxacum officinale</i> L.	A4 and ATCC 15834	Sesquiterpene lactones	Hepatoprotective, anticancerogenic, anti-inflammatory, antimicrobial, and antimalarial	Mahesh & Jeyachandran (2011)
<i>Rehmannia glutinosa</i> Libosch.	A4	Iridoid glycosides and phenylethanoid glycosides	Hemostatic, anti-inflammatory, antitumor, and hypoglycemic	Piąteczak <i>et al.</i> (2012)
<i>Siegesbeckia orientalis</i> L.	A4	Kireinol	Antibacterial	Wang <i>et al.</i> (2012)
<i>Calendula officinalis</i> L.	ATCC 15834	Oleanolic acid derivatives	Anti-inflammatory and cytotoxic	Długosz <i>et al.</i> (2013)
<i>Gymnema sylvestre</i> R. Br.	KCTC 2703	Gymnemic acid	Antimicrobial, diuretic, and antihypercholesteremic	Nagella <i>et al.</i> (2013)
<i>Withania somnifera</i> L.	R1000	Withanolide A, withanone, and withaferin A	Anti-inflammatory, anxiolytic, and antidepressant	Sivanandhan <i>et al.</i> (2013)
<i>Bacopa monnieri</i> L. Wettst.	A4, R1000, SA79, MTCC 532, and MTCC 2364	Bacoside A	Memory-facilitating	Bansal <i>et al.</i> (2014)

Table S2. (continued)

Plant species	<i>A. rhizogenes</i> strains	Compounds	Biological activity	References
<i>Gentiana scabra</i> Bunge	ATCC 15834	Iridoids and secoiridoids	Analgesic, anti-inflammatory, antirheumatic, diuretic, and hypoglycemic	Huang <i>et al.</i> (2014)
<i>Valeriana officinalis</i> L.	A13	Valerenic acid	Anxiolytic, sedative and, anticonvulsant	Torkamani <i>et al.</i> (2014)
<i>Whitania somnifera</i> L.	R1000, MTCC 2364, and MTCC 532	Withaferin A and withanolide A	Anticancerogenic and neuroprotective	Thilip <i>et al.</i> (2015)
<i>Artemisia annua</i> L.	LBA 301	Artemisinin	Antimalarial	Patra & Srivastava (2016)
<i>Artemisia pallens</i> Wall. ex DC	NCIM 5140	Artesunate	Animalarial	Pala <i>et al.</i> (2016)
<i>Lopezia racemosa</i> Cav.	ATCC 15834/Ptdt	Campesterol	Cytotoxic and anti-inflammatory	Moreno-Anzúrez <i>et al.</i> (2017)
<i>Ferula pseudalliacea</i> Rech.f.	ATCC 15834, 1724, A4, LB9402, and Ar318	Farnesiferol B	Antibacterial, anticancerogenic, and antiplasmodial	Khazaei <i>et al.</i> (2019)
<i>Trigonella foenum-graecum</i> L. and <i>Trigonella monantha</i> C.A.Mey.	ATCC 15834, A4, and wt	Steroidal sapogenins and phytosterols	Antibacterial, antiviral, and anticancerogenic	Kohsari <i>et al.</i> (2020)
<i>Astragalus membranaceus</i> Bge.	R1000	Astragalosides	Treatment of diabetes and cardiovascular diseases	Park <i>et al.</i> (2021)
<i>Glycyrrhiza uralensis</i> Fisch.	ATCC 15834	Glycyrrhizin	Anticancerogenic and antiviral	Wang <i>et al.</i> (2021)
<i>Panax ginseng</i> C.A. Meyer.	A4	Ginsenosides	Antioxidant and neuroprotective	Zhang <i>et al.</i> (2021)
<i>Senna obtusifolia</i> L.	A4	Betulinic acid	Anti-inflammatory and antiviral	Kowalczyk <i>et al.</i> (2021)
<i>Centella asiatica</i> L.	A4	Centellosides	Neuroprotective, antioxidant, antitumor, and anti-inflammatory	Alcalde <i>et al.</i> (2022)
<i>Physalis minima</i> L.	A4	Withaferin A	Anticancerogenic	Halder & Ghosh (2023)

Table S2. (continued)

Plant species	<i>A. rhizogenes</i> strains	Compounds	Biological activity	References
<i>Calendula officinalis</i> L.	ATCC 15834	Oleanolic acid derivatives	Anti-inflammatory and cytotoxic	Kamiński <i>et al.</i> (2024)
<i>Salvia miltiorrhiza</i> Bunge	A4	Tanshinone and phenolic compounds	Anti-inflammatory and anticancerogenic	Rastegarnejad <i>et al.</i> (2024)

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