

REFERENCES

- Sheh ML, Watson MF. Apiaceae Lindley. In: Wu ZY, Raven PH, editors. Flora of China, Vol 14. Beijing: Science Press and St. Louis: Missouri Botanical Garden Press; 2005. p. 1-205.
- Chinese Pharmacopoeia Commission. Pharmacopoeia of the People's Republic of China, Vol 1. Beijing: People's Medical Publishing House; 2010. p. 501-826.
- Rao GX, Liu QX, Dai ZJ, Yang Q, Dai WS. Textual research for the traditional Chinese medicine Radix Peucedani and discussion of its modern varieties. *J Yunnan Coll Tradit Chin Med* 1995;18:1-6.
- Zhang C, Xiao YQ, Taniguchi M, Baba K. Studies on chemical constituents in roots of *Peucedanum praeruptorum*. *Chin J Chin Mat Med* 2005;30:675-7.
- Zhang C, Xiao YQ, Taniguchi M, Baba K. Studies on chemical constituents in roots of *Peucedanum praeruptorum*. *Chin J Chin Mat Med* 2006;16:1333-5.
- Xue JC. Review on active ingredient and related pharmacological action of *Peucedanum praeruptorum*. *Strait Pharm J* 2012;24:34-8.
- Lan RF, Zheng X, Lin SQ, Chen ZT. Comparison on the Chemical Constituents of *P. japonicum* Thunb with *P. praeruptorum* Dunn. *Strait Pharma J* 2000;12:45-7.
- Liu BM, Xu Q. Analysis of dl-Praeruptorin A, dl-Praeruptorin B and Nodakenetin in Qianhu by GC/MS and GC. *Guangxi Sci* 2002;9:294-7.
- Zhu GY, Chen GY, Li QY, Shen XL, Fang HX. HPLC/MS/MS method for chemical profiling of Radix Peucedani (Baihua Quianhu). *Chin J Nat Med* 2004;2:304-8.
- Qi C, Chen ZJ. SDS-PAGE to identify with purple *Peucedanum* and *Peucedanum praeruptorum* Dunn and Counterfeit. *J Hubei Uni Chin Med* 2012;14:30-2.
- Joshi K, Chavan P, Warude D, Patwardhan B. Molecular markers in herbal drug technology. *Curr Sci* 2004;87:159-65.
- Xue CY, Li DZ, Lu JM, Yang JB, Liu JQ. Molecular authentication of the traditional Tibetan medicinal plant *Swertia mussotii*. *Planta Med* 2006;72:1223-6.
- Hebert PD, Cywinska A, Ball SL, de Waard JR. Biological identifications through DNA barcodes. *Proc R Soc Biol Sci Ser B* 2003;270:313-21.
- Hebert PD, Gregory TR. The promise of DNA barcoding for taxonomy. *Syst Biol* 2005;54:852-9.
- Chen SL, Yao H, Han JP, Liu C, Song JY, Shi LC, *et al.* Validation of the ITS2 Region as a Novel DNA Barcode for identifying Medicinal Plant Species. *PLoS One* 2010;5:e8613.
- China Plant BOL Group, Li DZ, Gao LM, Li HT, Wang H, Ge XJ, *et al.* Comparative analysis of a large dataset indicates that internal transcribed spacer (ITS) should be incorporated into the core barcode for seed plants. *Proc Nat Acad Sci U S A* 2011;108:19641-6.
- Downie SR, Plunkett GM, Watson MF, Spalik K. Tribes and clades within Apiaceae subfamily Apioideae: The contribution of molecular data. *Edinb J Bot* 2001;58:301-30.
- Winter PJ, Magee AR, Phephu N, Tilney PM, Downie SR, van Wyk BE. A new generic classification for African peucedanoid species (Apiaceae). *Taxon* 2008;57:347-64.
- Zhou J, Peng H, Downie SR, Liu ZW, Gong X. A molecular phylogeny of Chinese Apiaceae subfamily Apioideae inferred from nuclear ribosomal DNA internal transcribed spacer sequences. *Taxon* 2008;57:402-16.
- Zhou J, Gong X, Downie SR, Peng H. Towards a more robust molecular phylogeny of Chinese Apiaceae subfamily Apioideae: Additional evidence from nrDNA ITS and cpDNA intron (rpl16 and rps16) sequences. *Mol Phylog Evol* 2009;53:56-68.
- Feng T, Downie SR, Yu Y, Zhang XM, Chen WW, He XJ, *et al.* Molecular systematics of *Angelica* and allied genera (Apiaceae) from the Hengduan Mountains of China based on nrDNA ITS sequences: Phylogenetic affinities and biogeographic implications. *J Plant Res* 2009;122:403-14.
- Doyle JJ, Doyle JL. A rapid DNA isolation procedure for small quantities of fresh leaf issue. *Phytochem Bull* 1987;19:11-5.
- White TJ, Bruns TD, Lee SB, Taylor J. Amplification and direct sequencing of fungal ribosomal RNA genes for phylogenetics. In: Innis MA, Gelfand DH, Sninsky JJ, White TJ, editors. PCR protocols A guide to methods and applications. San Diego: Academic Press; 1990. p. 315-22.
- Xue CY, Li DZ. Use of DNA barcode to identify traditional Tibetan medicinal plant (*Gentianaceae*) *Gentianopsis paludosa*. *J Syst Evol* 2011;49:267-70.
- Lau TW, Shaw PC. Authentication of medicinal *Dendrobium* species by the internal transcribed spacer of ribosomal DNA. *Planta Med* 2001;67:456-60.
- Ding XY, Xu LS, Wang ZT, Zhou KY, Xu H, Wang YQ. Authentication of stems of *Dendrobium officinale* by rDNA ITS region sequences. *Planta Med* 2002;68:191-2.
- Lahaye R, van der Bank M, Bogarin D, Warner J, Pupulin F, Gigot G, *et al.* DNA barcoding the floras of biodiversity hotspots. *Proc Natl Acad Sci U S A* 2008;105:2923-8.
- Kress WJ, Wurdack KJ, Zimmer EA, Weigt LA, Janzen DH. Use of DNA barcodes to identify flowering plants. *Proc Natl Acad Sci U S A* 2005;102:8369-74.
- Ngan F, Shaw P, But P, Wang J. Molecular authentication of *Panax* species. *Phytochemistry* 1999;50:787-91.
- Kim OT, Bang KH, In DS, Lee JW, Kim YC, Shin YS, *et al.* Molecular authentication of ginseng cultivars by comparison of internal transcribed spacer and 5.8S rDNA sequences. *Plant Biotechnol Rep* 2007;1:163-7.
- Xu H, Wang ZT, Ding XY, Zhou KY, Xu LS. Differentiation of *Dendrobium* species used as "Huangcao Shihu" by rDNA ITS sequence analysis. *Planta Med* 2006;72:89-92.
- Xue HG, Zhou SD, He XJ, Yu Y. Molecular authentication of the traditional chinese medicinal plant *Euphorbia pekinensis*. *Planta Med* 2006;73:91-3.
- Yang ZY, Chao Z, Huo K, Xie H, Tian ZP, Pan SL. ITS sequence analysis used for molecular identification of the *Bupleurum* species from northwestern China. *Phytomedicine* 2007;14:416-23.
- Liu ZW, Zhao QR, Zhou J. A test of four candidate barcoding markers for the identification of geographically widespread *Chimaphila* species (Pyroleae, Ericaceae). *Acta Bot Gallica* 2013;160:11-7.
- Chinese Pharmacopoeia Commission. Pharmacopoeia of the People's Republic of China, Vol 1. Beijing: People's Medical Publishing House; 2000. p. 217.
- Xue HJ, Yan MH, Lu CM, Wang NH, Wu GR. Taxonomic study of *Angelica* from East Asia: Inferences from ITS sequences of nuclear ribosomal DNA. *Acta Phytotax Sin* 2007;45:783-95.
- Rao GX, Dai WS, Yang Q, Dai YX, Liu QX, San HD. Chemical constituents of *Pleurospermum govanianum* (Wall.) Benth ex C.B. Clarke var. *bicolor* Wolff. *Chin J Chin Mater Med* 1995;20:740-2.
- Rao GX, Sun HD, Lin ZW, Niu FD. Study on the chemical basis of Qianhu. *Nat Prod Res Dev* 1993;5:1-17.

Cite this article as: Zhou J, Wang W, Liu M, Liu Z. Molecular authentication of the traditional medicinal plant *Peucedanum praeruptorum* and its substitutes and adulterants by DNA - barcoding technique. *Phcog Mag* 2014;10:385-90.

Source of Support: Nil, **Conflict of Interest:** None declared.