

$\mu\text{g}\cdot\text{ml}^{-1}$ and $13.15 \mu\text{g}\cdot\text{ml}^{-1}$ with the porcelain pot and the stainless steel pot, respectively. Therefore, it was suggested to use the purple casserole as the decoction container of BianTi Soft Extract.

CONCLUSION

In this study, an optimized method was established and validated for polysaccharides determination in BianTi Soft Extract. GC-MS-based method was useful and reliable for identifying compounds such as monosaccharides, providing a powerful tool for the analysis of monosaccharide composition. Therefore, the standard monosaccharides solution prepared in different proportions make an accurate determination of polysaccharides. The proposed method was applied in the preparation of BianTi Soft Extract, selecting out the optimal decoction conditions and the suitable decoction container. It suggested that the developed method could be successfully applied to the quality control of BianTi Soft Extract. Furthermore, it may be an alternative for polysaccharides determination of other formulations and is of great importance for the rapid determination of unknown compounds using GC-MS coupled with spectrophotometry.

REFERENCES

- Richards MR, Lowary TL. Chemistry and biology of galactofuranose-containing polysaccharides. *Chembiochem* 2009;10:1920-38.
- Luo A, He X, Zhou S, Fan Y, He T, Chun Z. *In vitro* antioxidant activities of a water-soluble polysaccharide derived from *Dendrobium nobile* Lindl. extracts. *Int J Biol Macromol* 2009;45:359-63.
- Wang L, Huang H, Wei Y, Li X, Chen Z. Characterization and anti-tumor activities of sulfated polysaccharide SRBPS2a obtained from defatted rice bran. *Int J Biol Macromol* 2009;45:427-31.
- Li J, Bao Y, Lam W, Li W, Lu F, Zhu X, *et al.* Immunoregulatory and anti-tumor effects of polysaccharopeptide and *Astragalus polysaccharides* on tumor-bearing mice. *Immunopharmacol Immunotoxicol* 2008;30:771-82.
- Tzianabos A, Wang JY, Kasper DL. Biological chemistry of immunomodulation by *Zwitterionic polysaccharides*. *Carbohydr Res* 2003;338:2531-8.
- Koetzner L, Grover G, Boulet J, Jacoby HI. Plant-Derived Polysaccharide Supplements Inhibit Dextran Sulfate Sodium-Induced Colitis in the Rat. *Dig Dis Sci* 2009 in press.
- Padilha MM, Avila AA, Sousa PJ, Cardoso LG, Perazzo FF, Carvalho JC. Anti-inflammatory activity of aqueous and alkaline extracts from mushrooms (*Agaricus blazei* Murill). *J Med Food* 2009;12:359-64.
- Tomoda M, Hirabayashi K, Shimizu N, Gonda R, Ohara N, Takada K. Characterization of two novel polysaccharides having immunological activities from the root of *Panax ginseng*. *Biol Pharm Bull* 1993;16:1087-90.
- Li SP, Zhang GH, Zeng Q, Huang ZG, Wang YT, Dong TT, *et al.* Hypoglycemic activity of polysaccharide, with antioxidation, isolated from cultured *Cordyceps* mycelia. *Phytomedicine* 2006;13:428-33.
- Li SP, Zhao KJ, Ji ZN, Song ZH, Dong TT, Lo CK, *et al.* A polysaccharide isolated from *Cordyceps sinensis*, a traditional Chinese medicine, protects PC12 cells against hydrogen peroxide-induced injury. *Life Sci* 2003;73:2503-13.
- Sen AK Sr, Das AK, Banerji N, Siddhanta AK, Mody KH, Ramavat BK, *et al.* A new sulfated polysaccharide with potent blood anti-coagulant activity from the red seaweed *Grateloupia indica*. *Int J Biol Macromol* 1994;16:279-80.
- Li X, Zhang H, Xu H. Analysis of chemical components of shiitake Polysaccharides and its anti-fatigue effect under vibration. *Int J Biol Macromol* 2009;45:377-80.
- Courtois J. Oligosaccharides from land plants and algae: Production and applications in therapeutics and biotechnology. *Curr Opin Microbiol* 2009;12:261-73.
- Lee HH, Lee JS, Cho JY, Kim YE, Hong EK. Structural characteristics of immunostimulating polysaccharides from *lentinus edodes*. *J Microbiol Biotechnol* 2009;19:455-61.
- Hilz H, de Jong LE, Kabel MA, Schols HA, Voragen AG. A comparison of liquid chromatography, capillary electrophoresis, and mass spectrometry methods to determine xyloglucan structures in black currants. *J Chromatogr A* 2006;1133:275-86.
- Ritchie MA, Gill AC, Deery MJ, Lilliey K. Precursor ion scanning for detection and structural characterization of heterogeneous glycopeptide mixtures. *J Am Soc Mass Spectrom* 2002;13:1065-77.
- Evsenko MS, Shashkov AS, Avtonomova AV, Krasnopolskaya LM, Usov AI. Polysaccharides of basidiomycetes. alkali-soluble polysaccharides from the mycelium of white rot fungus *Ganoderma lucidum* (Curt.: Fr.) P. Karst. *Biochemistry (Mosc)* 2009;74:533-42.
- Zhao G, Kan J, Li Z, Chen Z. Structural features and immunological activity of a polysaccharide from *Dioscorea opposita* Thunb roots. *Carbohydr Polym* 2005;61:125-31.

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