不同產地來源及劑型蜂膠商品品質特性之探討

Quality Characteristics of Various Propolis Sources from Commercial Products

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[摘要]

蜂膠係蜜蜂採集植物分泌之樹脂、膠質經其唾液中酵素作用所形成之天然物，由於採集地區、林相、樹種、季節及環境條件之差異，一般化學組成及主要之具生物活性成分類黃酮含量亦有明顯不同。本研究選擇 9 種不同來源的蜂膠原膠與 79 種市售蜂膠產品，進行一般化學成分分析，包括樹脂與含膠量、最大吸收波長、總類黃酮含量、總酚類含量、重金屬－鉛含量和摻入茶湯、食用黃色四號、食用黃色五號之總類黃酮含量，並進一步探討對 Staphylococcus aureus 之抑菌能力。研究結果顯示，蜂膠原膠之樹脂平均含量為 29.50％，介於 16.21~53.81％之間，七十九件市售蜂膠之樹脂平均含量為 28.58％，其中蜂膠乙醇 萃取液共四十六件，樹脂之平均含量為 25.75％。紫外線吸收光譜分析中，大部分原膠最大 吸收波長在 360~380 nm 之間，為單吸收峰；除泰國原膠最大吸收波長在 230 nm 有二個吸收峰；市售蜂膠之最大吸收波長有明顯的差異。蜂膠原膠之總類黃酮平均含量為 17.91％，市售蜂膠總類黃酮平均含量為 9.03％。摻入茶湯、食用黃色四號色素及食用黃色五號色素之總類黃酮含量測定中，能使含量相對提高的—食用黃色四號色素的摻入影響最大。蜂膠原膠之總酚類平均含量為 5.07％，市售蜂膠之總酚類平均含量為 1.64％。重金屬－鉛分析中，以中國大陸華北地區含量最高為 163.33 ppm，十二件市售蜂膠中鉛含量，除 CE-1 為 11. 67 ppm，其餘均為 0 ppm。對 Staphylococcus aureus 之進行抑菌試驗，顯示出並非所有來源蜂膠有相似效果，但對 Staphylococcus aureus 而言，乙醇萃取液產品的抑菌效果較優於非乙醇萃取液產品。

關鍵字: 蜂膠 propolis、樹脂 resin、類黃酮 flavonoids、 總酚 phenolic
抗菌性 antimicrobial、 分析 analysis

[摘要]

Propolis is a natural resinous substance collected by bees from buds,young leaves and jnjurious parts of plants. The chemical composition andbiological activity of compound of propolis varies greatly and directly on the local flora and phenology of the host plants and indirectly on the locality and season of collection. The objectives of this study were to analyze the chemical composition, chemical and to approve the antimicrobial ability of9 crude propolis from different source and 79 commercial products. Thechemical composition analysis includes determining of resin concentration, maximumUV spectrum, total flavonoids, total phenolic substances, heavy metal of lead, added tea, tartrazine, sunset yellow FCF of total flavonoids andantimicrobial ability for Staphylococcus aureus. Results show that the

average resin of crude propolis was 29.50, from 16.21 to 53.81％, average resin of 79 commercial products was 28.58％, among average resin of 46 commercial ethanolic extract products containing propolis was 25.75％. Ultraviolet spectrum of crude propolis from different regions to maximum of wavelength about 360~380 nm, was single peak, but Thailand region to wave lengthabout 230 nm, was double peak. Commercial products to maximum of wave lengthhave obvious difference. The total flavonoids average concentration of crude propolis was 17.91, the total flavonoids average concentration ofcommerical products was 9.03％. The total flavonoids of acced tea , tartrazine,sunset yellow FCF of curde propolis and commerical products, tartrazine waseffect. The total phenolic average concentration of crude propolis was 1.64％,the total phenolic average concentration of commerical products was 1.64 ％.The lead content of curde propolis showed, especially high in the percentageof China (Hwa-pei area) was 163.33 ppm, the lead concent of 12 commerical products was 0 ppm, but CE-1 was 11.67 ppm. In the antimicrobial characteristics for Staphylococcus aureus showed, really not possess the similar effect of the sources of propolis and ethanolic extract products better than nonethanolic extract products.
(Keywords：propolis, resin, flavonoids, phenolic, antimicrobial, analysis)