

Pharmacognostic Characterization of *Illicium verum* Hk. f. for Dental Application

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ABSTRACT

Illicium verum Hk. f. (Illiciaceae), well-known in Thailand as “Chan paet kleep”, has been used as food flavor and Thai traditional medicine. It possesses strong antibacterial activity, particularly against pathogens in tooth cavity. The dried powder of this plant distributed locally has always been contaminated with some other plants. Hence, the knowledge on pharmacognostic characters is necessary for quality control of its raw material. The aim of this study is to identify *I. verum* Hk. f. as standard voucher specimen. The macroscopic results showed that its fruits formed woody follicles arranged in radiate whorl around short central column with short pedicel. Outer surface was reddish brown while inner surface was pale yellowish-brown and shiny. Seeds were compressed-ovoid, shiny, smooth and brown. Microscopic characters revealed that the dried fruit powder showed sclerenchyma fiber, elongated, thick-walled cell with simple to slightly-branched pore canals; stone cells with thick walls, reddish-brown parenchyma of mesocarp; thin-walled cells of endocarp; thickened, porous walls of pericarp (epidermis) etc. similar to microscopic description of transverse section of the fruit. These results established the standard characters of *I. verum* Hk. f. for quality control of the plant material prior to further experiment in formulation development for dental application.

Key words : *Illicium verum*, Star Anise, Pharmacognostic, Dental Application

INTRODUCTION

Illicium verum Hk. f. (Illiciaceae) is well-known in Thailand as “Chan paet kleep”. Fragrant wood is used for houses, pillars and furniture as well as fruit, leaves and seeds which have essential oil are used in Thai traditional medicine, for example, stimulant, carminative and spices (Backer et al., 1963). This study focused on using Chan paet kleep fruits which are valuable adding for innovative and alternative ingredient of this plant for dental applications.

MATERIALS AND METHODS

Illicium verum Hk.f. were collected and identified (Gagnepain, 1938; Nguyen et al., 1996; Putiyanan, 2004) as voucher specimen and standardized for phar-