

생강나무의 목부로부터 분리한 flavonoid의 LDL 항산화 활성 억제 효과  
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Isolation of flavonoids from the stem wood bark of *Lindera obtusiloba* Blume  
and their inhibition activity on LDL-oxidation

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### Objectives

*Lindera obtusiloba* Blume is a small arbor or shrub growing up to 7 meter high, which is widely distributed in Korea, Japan, and China. This plant has been used for convalescence after childbirth, and for the treatment of extravasation and abdominal pain in Chinese medicine. The stem wood barks of *Lindera obtusiloba* were extracted and partitioned with solvents. Three flavonoids were isolated through the repeated column chromatographies. The compounds were evaluated for LDL-oxidation activity. The present poster describes the isolation, structural characterization and inhibition activity on LDL-oxidation of these compounds.

### Materials and Methods

#### - Materials

The stem wood barks of *Lindera obtusiloba* were offered by GFC Co., Ltd. <sup>1</sup>H-NMR (400 MHz), <sup>13</sup>C-NMR (100 MHz), and 2D-NMR spectra were recorded on a Varian Unity Inova AS-400 FT-NMR spectrometer (California, USA).

#### - Methods

The stem wood barks of *Lindera obtusiloba* were extracted with 80% aqueous MeOH, and the concentrated extract was partitioned with EtOAc, *n*-BuOH, and H<sub>2</sub>O, successively. From the EtOAc fraction, three flavonoids were isolated through the repeated SiO<sub>2</sub>, ODS, and Sephadex LH-20 column chromatographies.

### Results

From the results of spectroscopic data including <sup>1</sup>H-NMR, <sup>13</sup>C-NMR, DEPT and 2D-NMR (COSY, HSQC, HMBC), the chemical structures of the compounds were determined to be isoquercetin (**1**), (+)-catechin (**2**), and (-)-epicatechin (**3**). isoquercetin was isolated for the first time from *L. obtusiloba*. Also, (+)-catechin and (-)-epicatechin inhibited LDL-oxidation with the inhibitory activity of 100.8±0.1%, 102.1±0.4% at a concentration of 10µg/ml, respectively.

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