NEW FINDINGS OF DOCTORAL DISSERTATION

Name of Doctoral candidate: Nguyen Van Linh

Dissertation title: "Phytochemistry and biological activity studies on *Agrimonia pilosa* Ledeb.var. *pilosa*"

Speciality: Medicinal Materials - Traditional Pharmacy **Code specciality:** 9720206

Name of academic advisors:

1. Prof. Dr. Pham Thanh Ky
2. Assoc. Prof. Dr. Vu Manh Hung

Name of academic institute: National Institute of Medicinal Materials

Summary of new findings of the dissertation:

1. Botany

- Scientific name of the sample which collected in Trung Khanh, Cao Bang was identified as *Agrimonia pilosa* Ledeb. var. *pilosa* (Rosaceae).

- Botanical properties, anatomical analysis of *A. pilosa* Ledeb. var. *pilosa* were performed.

2. Chemical constituents

Structure of 18 compounds isolated from *A. pilosa* Ledeb. var. *pilosa* were identified, including:

+ 2 new compounds: Agrimopilosid A (BAP-6), and Agrimopilosid B (BAP-13).
+ 7 compounds were isolated from genus *Agrimonia* for the first time: naringenin-7-*O*-*β*-D-glucopyranosid (BAP-4), leucosid (BAP-5), 2*S*,3*S*-(–)-glucodistylin (BAP-8 = BAR2), isolariciresinol-3*α*-*O*-*β*-D-glucopyranosid (BAP-12), vanilic acid 4-*O*-*β*-D-glucopyranosid (BAP-16), vanillolosid (BAP-18); and adenosin (BAP-20).
+ 1 new compound were isolated from *A. pilosa* Ledeb. var. *pilosa* for the first time: quercetin 3-*O*-*β*-D-galactopyranosid (BAP-1).
+ 8 know compounds were isolated from *A. pilosa* Ledeb. var. *pilosa*: (–)-aromadendrin 3-*O*-*β*-D-glucopyranosid (BAP-2 = BAR1), quercetin (BAP-28 = BAR3), kaempferol (BAP-29), quercetin-3-*O*-rutinosid (BAP-30 = BAR4), (+)-catechin (BAP-31); agrimonolid-6-*O*-*β*-D-glucopyranosid (BAR6), agrimonolid (BAR7), and 1*β*,2*α*,3*β*,19*α*-tetrahydroxyurs-12-en-28-oic acid (BAR9).

3. Toxicity and Biological activities:

- Acute toxicity and subchronic toxicity of aerial parts and root extracts of *A. pilosa* Ledeb. var. *pilosa* were published for the first time.

- The aerial parts and root extracts were indicated to have *in vitro* acute anti-inflammatory activity.

- The aerial parts and root extracts both showed *in vitro* analgesic activity.

- The aerial parts and root extracts both showed antioxidant activity and the hepatoprotective effect.

- Naringenin 7-*O*-*β*-D-glucopyranosid (BAP-4) showed the weak inhibitory activity on NO production with the IC_{50} values of 91.07 μg/ml. 8 compounds did not show inhibitory activity on NO.

9 compounds did not show cytotoxicity activity in HepG-2, MCF-7, and SK-LU-1 cells at concentrations 0,8μg/ml, 4μg/ml, 20μg/ml, and 100μg/ml.

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