

## NEW FINDINGS OF DOCTORAL DISSERTATION

Name of Doctoral candidate: **Bui Thi Thu Ha**

Dissertation title: “**Study on the experimental antitumor effects of the roots of *Panax Notoginseng* (Burk.) F.H. Chen, Araliaceae) grown in Vietnam before and after steaming process**”.

Specialty: **Pharmacology - Clinical Pharmacy;**

Code of specialty: **9720205**

Name of academic advisors

**1. Assoc.Prof.Vu Manh Hung, PhD.**

**2. Prof. Nguyen Thanh Hai, PhD.**

Name of academic institute: **National Institute of Medicinal Materials.**

### **Summary of new findings of dissertation**

1. For the first time in Vietnam, a medicinal herb available in the Northwest region of our country is the root of *Panax Notoginseng*. The unique approach is to apply the steam processing method under optimal temperature and time conditions, which produces secondary metabolites that are saponins with high biological activity. Saponins have been obtained, 2 types of high quantification have been obtained, containing high content of saponins, used as materials for experimental assesment *in vitro* against 6 cancer cell lines and *in vivo* to investigate in an experimental manner. Basic experimental anti-cancer effects using classical models, screening and evaluation of anti-cancer supportive effects. The obtained results have demonstrated outstanding effects in terms of anti-tumor effects, ability to enhance immune activity, antioxidation, induction and stimulation of programmed cell death (apoptosis) of cancer cells , in otherway, hepatoprotective and prolongation of survival in experimental animals of the NP from processed sage compared with the unprocessed type. At the same time, it is also a new contribution to improving the value of Vietnam's *Panax Notoginseng* from available raw materials, as a basis for the orientation of producing raw materials for pharmaceuticals with high potential for clinical applications to support anti-cancer in combination base therapy regimen, to reduce toxic effects of chemotherapy and/or radiation therapy.

This experimental result will contribute to suggest the use of saponins and NP(H) and NP(0) of Panax Notoginseng in clinic. These are contributions that have economic and social significance, demand for life as well as security and defense.

2. According to the US National Institutes of Health, all current holistic cancer treatments have contributed to an approximately 25% reduction in mortality for cancer patients, of which the extracted compounds Herbal medicine plays a very important role in improving the quality of life for patients, reducing the side effects of cancer treatment. Through enhancing the activity of the immune system, antioxidant, scavenging toxic free radicals in the catabolism of the tumor, helping patients better resist side effects during treatment, for faster and easier recovery. Saponin compounds from Panax Notoginseng, through the process of processing using steaming method with high biological activity, serve as a scientific basis for the preparation of herbal medicines, helping to develop standards for ingredients. active ingredients from Panax Notoginseng. With this approach, the research has suggested a new direction with practical significance in herbal preparation and processing in general, by using advanced technology in the steaming process, it is likely to form secondary substances have stronger pharmacological activity than the original, expect higher therapeutic effect, too.

Ha Noi, 1<sup>st</sup> November, 2022

**ACADEMIC ADVISORS**

**DOCTORAL CANDIDATE**



**Assoc. Prof. Vu Manh Hung, PhD.**



**Prof. Nguyen Thanh Hai, PhD.**



**Bui Thi Thu Ha**