



28th International Symposium
on the Chemistry of Natural Products
and 8th International Conference on Biodiversity
(ISCNP28 & ICOB8)

19th-24th October 2014
Shanghai, China

Program and Abstract Book

Congress Secretariat

Shanghai Institute of Materia Medica
Room 3324, 555 Yu Cheng Zhong Road
Shanghai 201203, China
Tel: +86 21 50806730, +86 21 50806800-3324
Fax: +86 21 50801098
E-Mail: ispc@simm.ac.cn

HEALIFE® PCO
Add: Room 605-606, Asia Pacific Business Center,
No. 333 Zhongyuan Road, Shanghai China (200002)
Tel: +86 21 6415 0355
Fax: +86 21 6415 0354
E-Mail: ICNP28@healife.com
[WWW.HEALIFE.COM](http://www.healife.com)

Organized by

- National Natural Science Foundation of China (NSFC)
- Shanghai Institute of Materia Medica (SIMM), CAS
- State Key Laboratory of Drug Research, SIMM, CAS

Co-Organizers

- Chinese Chemical Society
- Chinese Pharmaceutical Association
- Shanghai Pudong International Science & Technology
- Shanghai (Magical) Bio Pharmaceutical Industrial Park

<http://ispc.simm.ac.cn>



Poster-73

Investigation of Natural product from Medicinal plant of Kazakhstan

Jenis J.¹, Abilov Zh.A.¹, Hiroshi M.²

¹ Department of chemistry and technology of organic substances, natural compounds and polymers, Faculty of chemistry and chemical technology, Al-Farabi Kazakh National University, Al-Farabi ave.71, Almaty 050038, Kazakhstan. Email: janarjenis@mail.ru

² Faculty of Pharmaceutical Sciences, Hoshi University, Shinagawa-ku, Tokyo 142-8501, Japan

For thousands of years, medicine and natural products have been closely linked through the use of traditional medicines. Clinical, pharmacological, and chemical studies of these traditional medicines, which were derived predominantly from plants, were the basis of most early medicines. In Kazakh traditional medicine, the plant resources have been efficiently used in the treatments of different kinds of diseases such as bronchitis, bronchial asthma, hepatitis, urethritis, chronic rheumatoid arthritis, nephritis, urolithiasis, pharyngitis, periodontitis, stomach pain, hyperacidity, diarrhea, hemostasia, metrorrhagia, snakebite, cancer and so on. In Kazakhstan grow over six thousand kinds of plants in which more than 6000 species of highest vascular plants, about 5000 species of mushrooms, 4851 species of lichen, more than 2000 species of seaweed are registered. Present time, the natural product chemistry will again be of great interest to research scientists and scholars working in the exciting field of new drug discovery^{1,2}.

We focused our attention on study of the bioactive chemical constituents of some Kazakh medicinal plants such as *Atriplex tatarica*, *Dracocephalum nutans*, *Bergenia crassifolia*, *Acroptilon repens*, *Leontopodium ochroleucum*, *Fomes officinalis*, *Vaccinium myrtillus*, *Remiz pendulinus*, *Juniperus sabina*, and *Ribes altissimum* etc.

The all crude plant extracts were partitioned with n-hexane, chloroform, and n-butanol. Biological activities of the resulting extracts were screened. After dereplication, extracts then undergo bioassay-guided fractionation to ultimately isolating the active natural products as well as structures elucidation to discover the novel lead compounds and also to modify or develop the natural products.

The extracts of some medicinal plants showed significant cytotoxic effects on several human cancer cell lines (HL-60, MCF7, and HepG2). The active principles are responsible for the activity of the cytotoxic plant extracts which were identified as diterpens, sesquiterpens, sesquiterpene lactones, lignans, and small amount of alkaloids. A bioactive sesquiterpene lactone, cynaropicrin, has already been isolated from aerial parts of *Acroptilon repens*, meanwhile galloylbergenin and phenolic compounds isolated from *Bergenia crassifolia* which showed significant anti-lipid accumulation and vasorelaxant activities and the further research work will be continued^{3,4}.

References

1. Xu, X., et al. (2009) *The Kazakh Materia Medica*, The Ethnic Press: Beijing. 1: 357.
2. M. C. Baytenov, (1963) *Flora of Kazakhstan*, Almaty, 1: 71.
3. Jenis Janar, Hiroshi M., et al. (2012) *Chem. Pharm. Bull.*, 60(1): 154-159.
4. Jenis Janar, et al. (2012) *Heterocycles*, 86(2): 1591-1595.