



Comparison of the anti-inflammatory activities of furanocoumarins from the roots of *Angelica dahurica*

Ryo Okada¹, Hazuki Abe¹, Tetsuya Okuyama^{1,2}, Yuto Nishidono³, Toshinari Ishii¹, Tatsuki Sato¹, Saki Shirako¹, Ken Tanaka³, Yukinobu Ikeya⁴, Mikio Nishizawa^{1*}

¹Department of Biomedical Sciences, College of Life Sciences, Ritsumeikan University, Kusatsu, Shiga 525-8577, Japan;

²Department of Surgery, Kansai Medical University, Hirakata, Osaka 573-1010, Japan; ³College of Pharmaceutical Sciences, Ritsumeikan University, Kusatsu, Shiga 525-8577, Japan; ⁴Center for Supporting Pharmaceutical Education, Daiichi University of Pharmacy, Minami-ku, Fukuoka 815-8511, Japan

***Corresponding Author:** Professor Mikio Nishizawa, M.D., Ph.D., Department of Biomedical Sciences, College of Life Sciences, Ritsumeikan University; Kusatsu, Shiga 525-8577, Japan

Submission Date: November 15th, 2021; **Acceptance Date:** December 15th, 2021; **Publication Date:** December 20th, 2021

Please cite this article as: Okada R., Abe H., Okuyama T., Nishidono Y., Ishii T., Sato T., Shirako S., Tanaka K., Ikeya Y., Nishizawa M. Comparison of the anti-inflammatory activities of furanocoumarins from the roots of *Angelica dahurica*. *Bioactive Compounds in Health and Disease* 2021; 4(12): 287-300. DOI: <https://www.doi.org/10.31989/bchd.v4i12.866>

ABSTRACT

Background: The roots of *Angelica dahurica* Bentham et Hooker filius ex Franchet et Savatier (Apiaceae) have traditionally been used for inflammatory skin diseases. *A. dahurica* roots (*Byakushi*) contain furanocoumarins, such as imperatorin and byakangelicin. To elucidate which constituents are responsible for the anti-inflammatory effects, we evaluated the potency of crude *A. dahurica* root extract fractions by monitoring the production of the inflammatory mediator nitric oxide (NO) in hepatocytes.

Methods: The dried roots of *A. dahurica* were collected in South Korea and extracted with methanol. The resulting extract was fractionated into ethyl acetate (EtOAc)-soluble, *n*-butanol-soluble, and water-soluble fractions. Primary cultured rat hepatocytes were treated with interleukin (IL)-1 β and each fraction for 8 h, and then the NO production and lactate dehydrogenase activity in the medium were measured. The expression of inducible nitric oxide synthase (iNOS) was detected by Western blotting, and its mRNA expression level was measured by quantitative reverse transcription-polymerase chain reaction.

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