

3<sup>rd</sup> World Congress on

# NATURAL PRODUCTS CHEMISTRY AND RESEARCH & 12<sup>th</sup> WORLD PHARMA CONGRESS

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## Yukihiro Shoyama

Nagasaki International University, Japan

### Licorice constituents activate the *in vitro* fertilization

Licorice is one of the most important natural products from time immemorial and until now since it has various pharmacological activities depending on five hundred or more constituents. Among them glycyrrhizin is the most popular active compound having many pharmacological activities and developed as a medicine for liver diseases and allergy in Japan. Therefore, we first prepared monoclonal antibodies against glycyrrhizin with a major flavonoid, liquiritin and set up the ELISA system for qualitative and/or quantitative analysis, and developed a new immunostaining system, eastern blotting. Under the survey of active components in licorice using immuno-chemical assay system developed, we found that the licorice extract can accelerate the *in vitro* fertilization of mice. The ethyl acetate fraction from the crude extract indicated most active resulting in the isolation and identification of two active components, hormononetin and isoliquiritigenin. We confirmed that the addition of them in the medium promoted the *in vitro* fertilization resulting in birth, and that the active components were incorporated into the sperm activating the sperm movement. The active mechanism will be also discussed in this congress.

### Biography

Yukihiro Shoyama worked in MGH in Boston as a Post-doc in 1975. During 1978 to 1991, he worked as an Associate Professor and as a Full Professor during 1991 to 2007 in Kyushu University. During these periods he was the Director of Pharmacognosy Department, the Director of Herbal Garden, and held Deanship (2004-2006). He moved to Faculty of Pharmaceutical Sciences, Nagasaki International University as a Full Professor from 2007. He was the President of Japanese Society of Pharmacognosy (2007-2008) and Vice Chairperson of Specialty Committee of Traditional Chinese Medicine, Pharmaceutical Chemistry of World Federation of Chinese Medicine Societies (2012-2020). His research interests are marijuana studies like structure elucidation of biosynthetic enzyme protein by x-ray analysis, monoclonal antibodies against over 40 natural bioactive products, biotechnology of medicinal plants and bioactive natural products like saffron resulting in approximately 400 original papers and over 200 review articles.

[shoyama@niu.ac.jp](mailto:shoyama@niu.ac.jp)

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