

# European Pharma Congress

August 25-27, 2015 Valencia, Spain

## Synthesis of radiolabeled Hesperetin for biodistribution study of orally administered Hesperetin

Sang Hyun Park<sup>1,2</sup>, Jongho Jeon<sup>1</sup>, So-Young Ma<sup>1</sup>, Dae Seong Choi<sup>1</sup>, Beom-Su Jang<sup>1,2</sup>, Jung Ae Kang<sup>1</sup>, You Ree Nam<sup>1</sup> and Seonhye Yoon<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, Republic of Korea

<sup>2</sup>Korea University of Science and Technology, Republic of Korea

The flavonone hesperetin and hesperidin are widely found in a large number of citrus fruits including sweet orange, mandarin, lemon, and lime. Especially, the composition of hesperetin can reach more than 40% on a dry weight basis of a few immature fruits and high concentrations of hesperetin were also found in orange and grapefruit peel. Hesperetin showed a wide range of pharmacological effects such as anti-inflammatory, antioxidant, anticancer, antiviral, antiallergic, and neuroprotective compounds. Radiolabeled hesperetin was synthesized to investigate its *in vivo* behavior. An optimized labeling method was established to provide two isomers of <sup>123</sup>I-labeled hesperetin with high radiochemical purities as well as radiochemical yields. Both <sup>123</sup>I-labeled products were orally administered to normal ICR mice. The initial result showed that most radioactivity was detected in the stomach and the intestines. A portion of <sup>123</sup>I-labeled hesperetin was absorbed from the small intestine to blood stream and then it was distributed in organs. The results in the present study provided an efficient radiolabeling method of flavonoid and quantitative evaluation for organ distribution of orally administered hesperetin.

### Biography

Sang Hyun Park received his PhD from the Department of Chemistry, Stevens Institute of Technology, NJ, USA in 1996. He worked for Ohsung Chemical Co. Ltd. (1997-1998) and the Korea Advanced Institute of Science and Technology (1999-2001). In the interval, since 2001, he has been employed by the Korea Atomic Energy Research Institute as a Researcher. His current research interests are in the fields of chemical sensors, biosensors, and drug discovery.

[parksh@kaeri.re.kr](mailto:parksh@kaeri.re.kr)

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