

International Conference on

Food Chemistry & Hydrocolloids

August 11-12, 2016 Toronto, Canada

Protection of resveratrol against decomposition of folic acid and the decomposition-induced β -lactoglobulin structural change

Wusgal and Li Liang
Jiangnan University, China

Folic acid is a synthetic form of the B group vitamin known as folate, which is essential for a variety of physiological processes and plays an important role in the prevention of neural tube defects. However, it decomposes when exposed to UV light. Protein unfolding or decomposition occurred at the same time, due to interaction with folic acid photoproducts and generation of singlet oxygen. In this study, protective effect of resveratrol against photodecomposition of folic acid and decomposition-induced β -lactoglobulin structural change were investigated using fluorescence and absorbance spectroscopy, circular dichroism and high performance liquid chromatography. It was found that resveratrol at 10 μ M could inhibit photodecomposition of 10 μ M folic acid and also the resulting structural change of β -lactoglobulin whether the polyphenol was added before or during UV irradiation. Meanwhile, a decrease in the conversion rate of resveratrol from the *trans*- to the *cis*-form and an increase in the degradation of both *trans*- and *cis*-resveratrol were detected. The results suggest that resveratrol could be used to control the photodecomposition process of folic acid and prevent against folic acid-induced protein structural change, as it is an effective active oxygen quencher during irradiation.

Biography

Wusgal is a PhD candidate at State key lab of Food Science and Technology, Jiangnan University. Her research interests focus on prevention of decomposition of folic acid and the decomposition-induced protein structural change.

454424562@qq.com, liliang@jiangnan.edu.cn

Notes: