

International Conference on

Nutritional Science and Food Technology

July 02-03, 2018 Rome, Italy

Degradation of sesaminol triglucoside in sesame milk fermentation by β -glucosidase producing *Lactobacillus plantarum* Dad 13

*¹Ulyatu Fitrotin, ²Umar Santoso, ²Pudji Hastuti, ²Tyas Utami

¹The Assessment Institutes for Agricultural Technology of West Nusa Tenggara, Indonesia

²Gadjah Mada University, Indonesia

Abstract

Sesaminoltriglucoside is a bioactive compound in sesame milk which has antioxidant activity. Sesaminoltriglucoside exhibits higher antioxidant activity when it is hydrolyzed by β -glucosidase. The aims of this research are to study the increase of antioxidant activity and the decrease of sesaminoltriglucoside concentration during sesame milk fermentation by *L. plantarum* Dad 13. Sesame milk was inoculated with *L. plantarum* Dad 13 and incubated at 37°C for 18 h. The viable cell, β -glucosidase activity, sesaminol triglucoside concentration and antioxidant activity were monitored during fermentation. The crude extract of sesaminolglucosidelignan from defatted sesame seed was hydrolyzed using β -glucosidase. The antioxidant activity and the decrease of sesaminol triglucoside were analyzed. The results showed that *L. plantarum* Dad 13 grew well in sesame milk fermentation and produced β -glucosidase during fermentation. The antioxidant activity of sesame milk fermentation increased 2.34 times and sesaminol triglucoside concentration decreased 56.4%. Hydrolysis of β -glucosidase on sesaminolglucosidelignan crude extract resulted in decrease of sesaminoltriglucoside concentration and increase its antioxidant activity. It can be concluded that the increase of antioxidant activity was due to the degradation of sesaminoltriglucoside by β -glucosidase that produced by *L. plantarum* Dad 13.

Biography

Dr. Ulyatu Fitrotin is currently working at The Assessment Institutes for Agricultural Technology of West Nusa Tenggara, Indonesia. He published many articles in reputed journals and attended many international conferences.

email: ulyaelariefy@gmail.com