

Cloning, expression and characterization of glutathione S-transferase from *Oryza sativa*

Jung Bo-Ra, Kim Bong-Gyu, Ahn Joong-Hoon

Department of Molecular Biotechnology, Bio/Molecular Informatics Center, Konkuk
University, Seoul, Korea

TEL: +82-2-450-3764, FAX: +82-2-3437-6106

Abstract

The glutathione S-transferases(GSTs) are key metabolic enzymes involved in the detoxification of several plants.¹⁾ It's catalyze the conjugation of electrophilic substrates to glutathione(GSH) as well as homo-GSH, these enzymes also carry out a range of other functions.²⁾ In addition to their role They have peroxidase and isomerase activities. We search GST genes from *Oryza sativa* tand found more than 70 GSTs. Ten GSTs from rice were cloned using RT-PCR and expressed in *E. coli*. Among them, three were successfully expressed and purified. Functional characterization of these expressed GSTs is in progress.

Reference

1. Sheehan, D., Meade, G., Folsy, V.M., Dowd, C.A., Structure, function and evolution of glutathione transferases: implications for classification of non-mammalian members of an ancient enzyme superfamily (2001), *Biochem. J.* 360, 1-16.
2. Jingrui Wu, Hiroyoshi Omokawa and Kriton K. Hatzios, GlutathioneS-Transferase Activity in Unsafened and Fenclorim-Safened Rice (*Oryza sativa*) (1996), 54, 220-229.
3. Seung-Hoon Hong, Hee-Joong Park and Kwang-Hoon Kong, Purification and biochemical properties of glutathione S-transferase from *Oryza sativa* (1999), 122, 21-27.