

Determination of Total Glutathione in Yeasts by High-Performance Liquid Chromatography with Dansylation

Yunfeng Ma, Fu Xiang, Wenwen Jin, and Longjiang Yu*

Institute of Resource Biology & Biotechnology, College of Life Science and Technology,
Huazhong University of Science and Technology, Wuhan, 430074 China.
E-mail: yulongjiang@mail.hust.edu.cn

* Author for correspondence and reprint requests

Z. Naturforsch. **65c**, 391–394 (2010); received December 14, 2009/January 27, 2010

A method to determine the content of total glutathione (GSHt) was introduced based on high-performance liquid chromatography (HPLC) with dansylation. The minimum detection concentration of GSHt was 0.5 g/mL and the measurable range 1.0–300 g/mL. GSHt in yeasts was obtained by hot-water extraction, GSH complete autoxidation to oxidized glutathione (GSSG) in alkaline solution and purification by thin-layer chromatography (TLC). The quantitative determination of GSSG was derived by dansyl chloride at pH 9.5, 60 °C for 60 min and assayed by HPLC. GSHt in *Saccharomyces cerevisiae* is higher than in *Candida rugosa* and *Candida utilis*. *S. cerevisiae* can be chosen as the better target for mutagenesis and industrial scale.

Key words: Total Glutathione, Yeast, HPLC