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Determination of total glutathione in yeasts by high-performance liquid chromatography with dansylation.

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Abstract

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 microg/mL and the measurable range 1.0-300 microg/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 degrees 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.

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