Proteomic Approach to the Identification of Membrane Proteins from Erythritol-Producing *Candida magnoliae*

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Membrane proteins are generally deficient in two-dimensional gel proteome maps because it is difficult to isolate the membrane proteins. C. magnoliae, an osmotolerant yeast to produce erythritol as a major product, prefers fructose to glucose as a carbon source, deserving the designation of a fructophilic yeast. This might be derived from the characteristics of transport systems for hexoses. Two isolation methods were employed to extract the membrane proteins, such as centrifugal-based and detergent-based extraction methods. Proteins from each extraction method were separated by 2DE and identified using LC/MS/MS and ESI/MS/MS. Two methods were not sufficient to isolate the pure membrane proteins. However, the centrifugal-based extraction method was more effective in reducing contaminating membrane and cytosolic proteins. Seven spots of 25 proteins were only identified as membrane associated proteins. This study provides methodological tools to study particular classes of membrane proteins and should be applicable to investigating other cellular membrane proteins.