



Schematic diagram of the secretory characteristics of *Saccharomyces cerevisiae* protoplasts inferred from DNA microarray results. The secretory pathway in protoplasts (right panel: red arrows) is significantly activated in protoplasts compared to in intact cells (left panel), implying the usefulness of protoplasts for the production of enzymes.

Related article: Mera, N., Aoyagi, H., Nakasono, S., Iwasaki, K., Sakai, H., and Tanaka, H., "Analysis of gene expression in yeast protoplasts using DNA microarrays and their application for efficient production of invertase and  $\alpha$ -glucosidase", *J. Biosci. Bioeng.*, vol. 97, 169-183 (2004).