

Expression of Carotenogenic Genes and Astaxanthin Production in *Xanthophyllomyces dendrorhous* as a Function of Oxygen Tension

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This report gives an insight into the specific changes in the transcription of four key carotenogenic genes [encoding geranylgeranyl diphosphate synthase (crtE), phytoene desaturase (crtI), phytoene synthase lycopene cyclase (crtYB), and astaxanthin synthase (ast), respectively] in *Xanthophyllomyces dendrorhous* cultures, with regard to dissolved oxygen (DO) contents of 10%, 25%, and 40% air saturation, respectively. 25% DO proved to be the most beneficial for yeast growth, transcription of carotenogenic genes, and astaxanthin content.

Key words: Carotenogenic Genes, Astaxanthin, *Xanthophyllomyces dendrorhous*, Dissolved Oxygen