

5th World Congress on Biotechnology

June 25-27, 2014 Valencia Conference Centre, Valencia, Spain

Effects of conditions of culture on mitochondrial membrane potential and viability of genetically modified *Pichiapastoris*

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Pichiapastoris genetically modified has been used as an efficient expression system for production of recombinant proteins. For the production of scFv anti-LDL (-) has been used the methanol inducible promoter alcohol oxidase I. During the induction phase, the conditions of culture such as temperature and concentration of methanol could affect to mitochondrial function and viability of *Pichiapastoris*. The purpose of this study is to determine the effects of temperature and methanol concentration on the mitochondrial function and viability of genetically modified *Pichiapastoris*. We evaluated five different conditions of culture: 14°C-1% (v/v) methanol (m), 14°C- 2%(v/v) m, 18°C-1.5% (v/v) m, 22°C-1% (v/v) m and 22°C-2% (v/v) m. was analyzed the mitochondrial membrane potential using 5,5',6,6'-tetrachloro-1,1',3,3'-tetraethylbenzimidazolcarbocyanine iodide (JC-1) and the viability using propidium iodide by flow cytometer. The results to indicate that yeast cultured during induction phase using less 2% (v/v) methanol improve the mitochondrial function and was observed diminution of cell viability when yeast were exposed to 1.5% (v/v) or 2% (v/v) methanol. In conclusion, genetically modified *Pichiapastoris* require low concentration of methanol for improve the energy production source and elevated levels of methanol could induce cellular membrane damage.

Biography

Figueroa C A is studying his sandwich PhD in Universidad de La Frontera, Chile and Universidade de São Paulo, Brazil. She has published 5 papers and she is member of Society of Pharmacology of Chile since 2012. She is developing her thesis in Biotechnological Pharmaceuticals Laboratory of Universidade de São Paulo and she is working with production of heterologous proteins in *Pichiapastoris*.

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