

P028 Experimental normoxia conditions for hepatic cells, post-transcriptional level of gene expression

Michèle Brocard, Anthony Lepelletier, Maud Galby,
Sébastien Charreton, Sylvie Paulous, Katherine M. Kean
and Anastassia Komarova

Institut Pasteur, 75724 Paris Cedex 15, France

The studies of gene expression profiles in eukaryotic cells at both transcription and translation levels are usually done under 21% O₂ (standard atmospheric oxygen pressure) and the 0%, 1-5 % O₂ oxygen pressure is regarded as hypoxia conditions. However these conditions are actually more physiological. We are focusing our studies on post-transcriptional regulation of gene expression in hepatic cells, taking into account that the mammalian liver has a lower oxygen pressure than other organs (estimated to between 1 and 5% O₂) and the deprivation of oxygen supply to hepatic cells could result in the onset of numerous metabolic responses.

We are studying the morphological changes, the growth rate and the changes in the polysomal profiles of the HuH7 human liver cell line under two different conditions: standard atmospheric oxygen pressure (21% O₂), and experimental normoxia conditions (5% O₂). The results obtained following oxygen deprivation will be shown and discussed, along with protocols and troubleshooting concerning global comparisons of total and polysomal mRNA profiles using cDNA microarray approach. We believe that these studies provide a better understanding of molecular events leading to various forms of liver diseases.

MB is funded by grant from the Agence Nationale de Recherches contre le Sida (France). AK is funded by grant from the Fondation Recherche Médicale (France)