

PROTEOMIC ANALYSIS OF EXTRACELULAR PROTEINS FROM *Kluyveromyces lactis* GROWN UNDER NITROGEN LIMITATION

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The nutritional status of a cell culture affects either the expression or the traffic of a number of proteins. The identification of the physiological conditions which favor protein secretion has important biotechnological consequences in designing systems for recombinant extracellular protein production. The potential industrial yeast *Kluyveromyces lactis* has been cultured in a continuous stirring tank bioreactor (CSTR) under nitrogen limitation at growth rates close to either exponential or stationary batch growth phases. The objective was to investigate the extracellular proteome at two levels of nitrogen limitation. Proteins from free cell extracts were separated by two-dimensional chromatography. The chromatograms profiles were comparatively distinguished between the lower and higher growth rate samples. Unexpectedly the differences were observed in samples from the same dilution rate. Protein peaks from the second dimension of lower dilution rates samples were subjected to mass spectrometry ESI-Q-TOF Micro. Three molecular masses have been identified: 9521,99 Da, 11286.69 Da e 14924,14 Da. These masses have not always been correlated to the putative secreted *K. lactis* proteins, probably because post-translation modifications. Supported by CNPq and FAPEMIG.