

G - 49

ANALYSIS OF RECOMBINANT HUMAN PROLACTIN (REC - hPRL) DIRECTLY IN *E. coli* OSMOTIC SHOCK FLUIDS

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As far as we know no accurate physico-chemical method for hPRL determination has been described up to now. The experimental evidence that hPRL and human growth hormone (hGH) have similar hydrophobic properties (Hodgkinson, 1981) and that hGH is more hydrophobic than the majority of *E. coli* proteins from which it can be easily resolved by isocratic reversed-phase high-performance liquid chromatographic (RP-HPLC) (Leser, 1992, Jacobson, 1997, Dalmora, 1997), suggested us that this methodology could be useful not only for quantitating hPRL in bacterial extracts and in its purified form, but also that it could provide a rapid means of qualitative analysis and identification.

The purpose of the present study is therefore to apply an isocratic RP-HPLC technique for the direct determination of the amount and quality of hPRL being secreted in bacterial shock fluids. This determination of hPRL in periplasmic extracts fluid can be carried out in about 30 min, at any moment during or after the fermentation process. On the basis of this evaluation it may be possible to adjust and correct the fermentation conditions, avoiding an unnecessary, time-consuming and expensive purification process and, more importantly, permitting investigation of the causes and moment at which alterations occur.

The described methodology also allowed the setting up and utilization of an internal reference preparation of periplasmic hPRL, an evaluation of the hydrophobicity of different molecular forms of PRL and the analysis of crude extracts of rec-hPRL from CHO cells.

Supported by CNPq (Brasilia), IAEA (Vienna) and FAPESP (São Paulo).