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USE OF RECOMBINANT HUMAN PROLACTIN FOR RADIOIODINATION AND STANDARD PREPARATION IN RADIOIMMUNOASSAY

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Recombinant human prolactin (hPRL) with a 6His affinity tag and a cleavage site for factor Xa was expressed in Escherichia coli (E.coli) using a high-level expression vector and obtaining the hormone in the periplasmic space of the bacteria. 6His-Ile-Glu-Gly-Arg-hPRL after purification and characterization was used for the preparation of RIA reagents. Standard curves (logit %B/Bo x log dose) had a good parallelism when recombinant (rec) 6His-Ile-Glu-Gly-Arg-hPRL and a pituitary (pit) hPRL were use as reference preparations in a RIA system, with ^{125}I pit hPRL as a tracer. The slopes at the standard curves were 0.935 for pit hPRL and 0.971 for rec hPRL with a correlation coefficient of 0.990 and 0.996 respectively. When using ^{125}rec hPRL as a tracer, the slopes obtained were 1.1131 for pit hPRL and 1.0874 for rec hPRL and the respectives correlation coefficients were 0.999 and 0.994.

Unknown samples (n = 11) at various concentrations (from 5 to 300 ng/mℓ) were determined using a pituitary reference preparation to study the correlation between the values obtained with the use of the tracers ^{125}I-6His-Ile-Glu-Gly-Arg-hPRL and ^{125}I-pit hPRL prepared by the Chloramine T iodination method. In the correlation curve pratically no bias was introduced (slope = 0.993) while the correlation coefficient was r = 0.997.

These preliminar data suggest that this recombinant hPRL preparation is suitable for the preparation of tracer and for use as a standard preparation in RIA assay.

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