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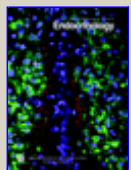
Marked species specificity of guinea pig luteinizing hormone: validation of a bioassay

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The Guinea pig is a potentially interesting alternative small animal model for the study of the neuroendocrine regulation of reproduction. However, appropriate gonadotropin assays are not widely available for this species. The aim of the present study was to validate a bioassay procedure for guinea pig luteinizing hormone (LH). The well-established interstitial cell-testosterone in vitro bioassays with the use of dispersed mouse or rat Leydig cells, successfully applied for measurement of LH from a variety of mammalian species, were found to be unsuitable for assay of guinea pig LH because of a marked species specificity of guinea pig LH. An alternative bioassay procedure was established with the use of dispersed guinea pig Leydig cells. This assay has been shown to allow for the assessment of serum LH response to exogenous gonadotropin-releasing hormone and of the expected spontaneous pulsatile pattern of basal LH secretion, with an apparent mean serum LH pulse interval of 31.4 minutes and 51.9 minutes, in long-term castrated and sham operated male guinea pigs, respectively. This bioassay can be a useful tool for more intensive exploration of guinea pig reproductive physiology.

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