

Validation of a radioimmunoassay for measuring fecal cortisol metabolites in the hystricomorph rodent, octodon degus

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Determination of fecal steroid metabolites is a noninvasive technique that characterizes the physiological state of organisms without the physiological and psychological stress of handling. Although this technique has many applications in the study of wildlife and/or captive animals without the necessity of capturing individuals, it requires a species-specific validation before use. A complete validation includes an analytical and a physiological one. In the latter changes in fecal hormone metabolites are induced by previous manipulations of the respective plasma hormones. Here we validated a method for measuring fecal cortisol metabolites (FCM) in the hystricomorph rodent *Octodon degus*. We extracted feces with 80% ethanol and quantified steroids using a commercial available cortisol radioimmunoassay. We first compared baseline levels of blood cortisol and FCM, and then performed a challenge test with adrenocorticotrophic hormone (ACTH) to demonstrate that FCM accurately reflect adrenoc