

## Free Cortisol, Urine by RIA

<b>Method:</b>	Radioimmunoassay (RIA)
<b>Kit</b>	DIAsource ImmunoAssays S.A.
<b>Manufacturer:</b>	Rue du Bosquet, 2, B-1348 Louvain-la-Neuve, Belgium.
<b>Description:</b>	<p>Cortisol is the major glucocorticoid produced and secreted by the adrenal gland. In response to different stimuli (diurnal rhythm, stress, low blood sugar concentration), the cerebral cortex stimulates the hypothalamus to release the CRF (corticotrophin releasing factor). CRF causes the release from the pituitary gland of ACTH (adrenocorticotrophic hormone). Glucocorticoids are then synthesized in response to ACTH.</p> <p>Since Cortisol levels depend upon the interaction of the hypothalamus, pituitary and adrenal glands, determination of urine cortisol levels can also aid in the study of the diseases states of these glands.</p> <p>In the RIA, a fixed amount of <sup>125</sup>I labelled steroid competes with the steroid to be measured present in the sample or in the calibrator for a fixed amount of antibody sites being immobilized to the wall of a polystyrene tube. Neither extraction nor chromatography are required because of the high specificity of the coated antibodies. After 45 minutes incubation at 37°C, an aspiration step terminates the competition reaction. The tubes are then washed with 3 ml of wash solution and aspirated again. A calibration curve is plotted, and the cortisol concentrations of the samples are determined by dose interpolation from the calibration curve.</p>

### Collection and Performance Characteristics

<b>Tube type:</b>	Preferred: Urine
<b>Minimum Volume:</b>	0.2 mL
<b>Special Processing Considerations</b>	Collect urine samples during 24 hours without preservative. Record the total volume. Avoid subsequent freeze-thaw cycles.
<b>Lowest Reportable Value:</b>	0.3 ug/dL
<b>Dynamic range:</b>	0.3 - 25.0 ug/dL (if high values are expected, range can be extended to 100.0 ug/dL)
<b>Precision:</b>	Intra-assay variation is 5.2 – 7.7% Inter-assay variation is 8.7-15.1%

**Reference Range:**

24 h urine samples: 6 – 75 µg/24Hours