ACTH

Method:	Immunoradiometric assay (IRMA)
Kit Manufacturer:	DIAsource ImmunoAssays S.A. Rue du Bosquet, 2, B-1348 Louvain-la-Neuve, Belgium.
Description:	Adrenocorticotropic hormone (ACTH or corticotrophin) is a polypeptide hormone synthesised (from POMC, pro-opiomelanocortin) and secreted from corticotropes in the anterior lobe of the pituitary gland in response to the hormone corticotrophin-releasing hormone (CRH) released by the hypothalamus. Too much ACTH can result in overproduction of cortisol which can cause Cushing's syndrome. Too much ACTH can be caused by benign pituitary adenoma. Other causes of Cushing's syndrome (too much cortisol) include ectopic production of ACTH as encountered in some lungs tumors and benign and malignant adrenal tumors. Reduced secretion of ACTH by the pituitary gland is called secondary adrenal insufficiency. Tertiary adrenal insufficiency is caused by failure of the hypothalamus to produce corticotrophin-releasing hormone (CRH) while primary adrenal insufficiency is defined as loss of adrenocortical hormones due to destruction or impairment of the adrenal cortex. All patients with adrenal insufficiency show weight loss. Secondary and tertiary adrenal insufficiency is in part diagnosed by ACTH (Cortrosyn) injection to look for simulation of cortisol production.

Collection and Performance Characteristics

Tube type:	Preferred: EDTA plasma Blood should be collected and be placed on ice immediately or drawn into previously chilled tubes, and immediately separated in a refrigerated centrifuge (2-8°C). Remove the plasma supernatant to the appropriately labelled plastic storage vessel and freeze at -80°C.
Minimum Volume:	0.5 mL Avoid repeated freeze-thaw cycles Store at -80°C until analysis is performed
Lowest Reportable Value:	11.0 pg/mL
Dynamic range:	11.0 – 1931.9 pg/mL
Precision:	Intra-Assay variation is: 3.0 – 6.4% Inter-Assay Variation is: 4.8 – 6.2%
Reference Range:	Normal Patients: 9.6 to 49.7 pg/ml