

SCIENTIFIC TEAM

## Endo - Final

Which of the following hormones acts on its target tissues by a steroid hormone mechanism of action?

- (A) Thyroid hormone
- (B) Parathyroid hormone (PTH)
- (C) Antidiuretic hormone (ADH) on the collecting duct
- (D)  $\beta$ 1-adrenergic agonists
- (E) Glucagon

**Answer A** 

Selective destruction of the zona glomerulosa of the adrenal cortex would produce a deficiency of which hormone?

- (A) Aldosterone
- (B) Androstenedione
- (C) Cortisol
- (D) Dehydroepiandrosterone
- (E) Testosterone
- Answer A

A 46-year-old woman has hirsutism, hyperglycemia, obesity, muscle wasting, and increased circulating levels of adrenocorticotropic hormone (ACTH). The most likely cause of her symptoms is (A) primary adrenocortical insufficiency (Addison disease) (B) pheochromocytoma (C) primary overproduction of ACTH (Cushing disease) (D) treatment with exogenous glucocorticoids (E) hypophysectomy Answer C Increased adrenocorticotropic hormone (ACTH) secretion would be expected in patients (A) with chronic adrenocortical insufficiency (Addison disease) (B) with primary adrenocortical hyperplasia

(C) who are receiving glucocorticoid for immunosuppression after a renal transplant

(D) with elevated levels of angiotensin II Answer A

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Which step in steroid hormone biosynthesis is stimulated by adrenocorticotropic hormone (ACTH)?

(A) Cholesterol  $\rightarrow$  pregnenolone

(B) Progesterone  $\rightarrow$  11-deoxycorticosterone

(C) 17-Hydroxypregnenolone  $\rightarrow$  dehydroepiandrosterone

(D) Testosterone  $\rightarrow$  estradiol

(E) Testosterone  $\rightarrow$  dihydrotestosterone

Answer A

Which of the following causes increased aldosterone secretion?

- (A) Decreased blood volume
- (B) Administration of an inhibitor of angiotensin-converting enzyme (ACE)
- **(C) Hyperosmolarity**

Answer A

A 39-year-old man with untreated diabetes mellitus type I is brought to the emergency room. An injection of insulin would be expected to cause an increase in his (A) urine glucose concentration (B) blood glucose concentration (C) blood K+ concentration (D) blood pH (E) breathing rate

**Answer D** 

Which of the following pancreatic secretions has a receptor with four subunits, two of which have tyrosine kinase activity?

(A) Insulin

(B) Glucagon

(C) Somatostatin

(D) Pancreatic lipase

Answer A

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