

Draw the structure of an example of the following steroids and briefly describe their biological functions

a) adrenocortical hormone

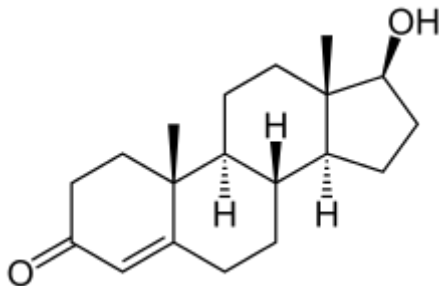
b) bile acid

a) adrenocortical hormone

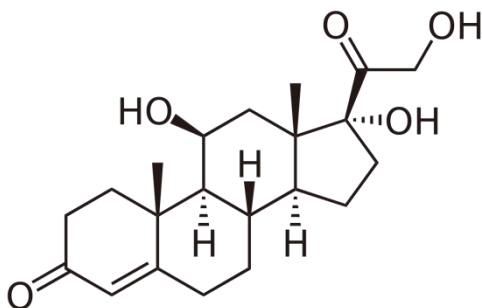
The adrenocortical hormones are steroid molecules produced and released by the adrenal cortex. The adrenal cortex synthesizes two types of steroids:

the *corticosteroids*, and the *androgens*.

Testosterone, the major androgen.



Cortisol – stress hormone.



Cortisol effects on the body.

The secretion of cortisol causes a rise greatly (6 to 10 times normal levels) in the process of **gluconeogenesis** - the synthesis of **carbohydrates** from **amino acids** and other substances in the liver.

Functions of aldosterone and blood pressure.

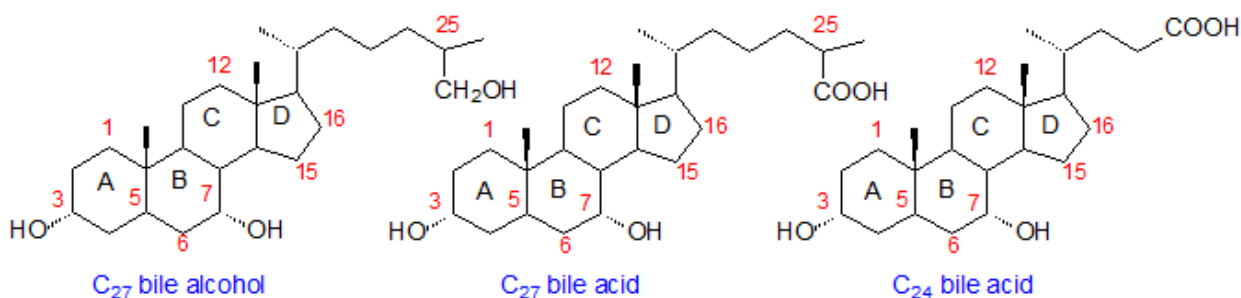
Two primary (and linked) functions of aldosterone are osmoregulation (the process of regulating the amounts of water and mineral salts in the blood) and blood pressure regulation.

In the kidneys, aldosterone acts increasing of sodium ion absorption and secretion of potassium ions, primarily in the collecting ducts of nephrons.

Aldosterone also stimulates sodium reabsorption in the colon.

b) bile acid

A major function of bile acids is to act as powerful detergents or emulsifying agents in the intestines to aid the hydrolysis of dietary triacylglycerols and other lipids and the subsequent absorption of fatty acids, monoacylglycerols, fat-soluble vitamins and other fatty products. They stimulate lipolysis directly by facilitating the binding of pancreatic lipase with its co-lipase. In addition, they may control the growth, digestive capacity and metabolism of the microbial biome in the small intestine with consequences for the physiology and biochemistry of the host, including the metabolic syndrome, obesity and heart failure.



Answer provided by www.AssignmentExpert.com