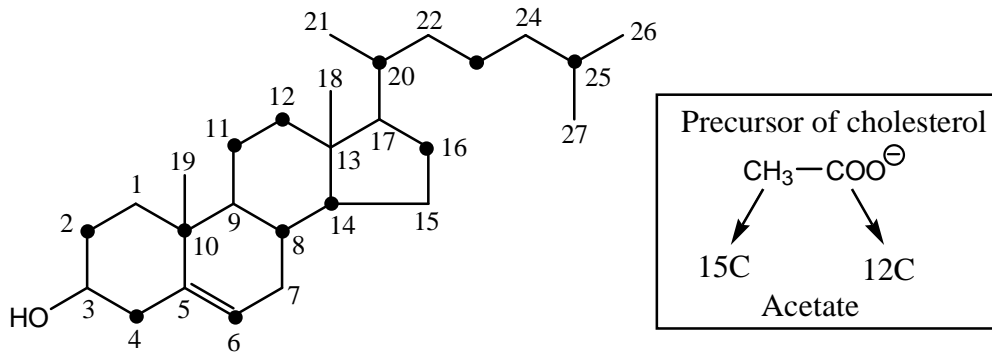
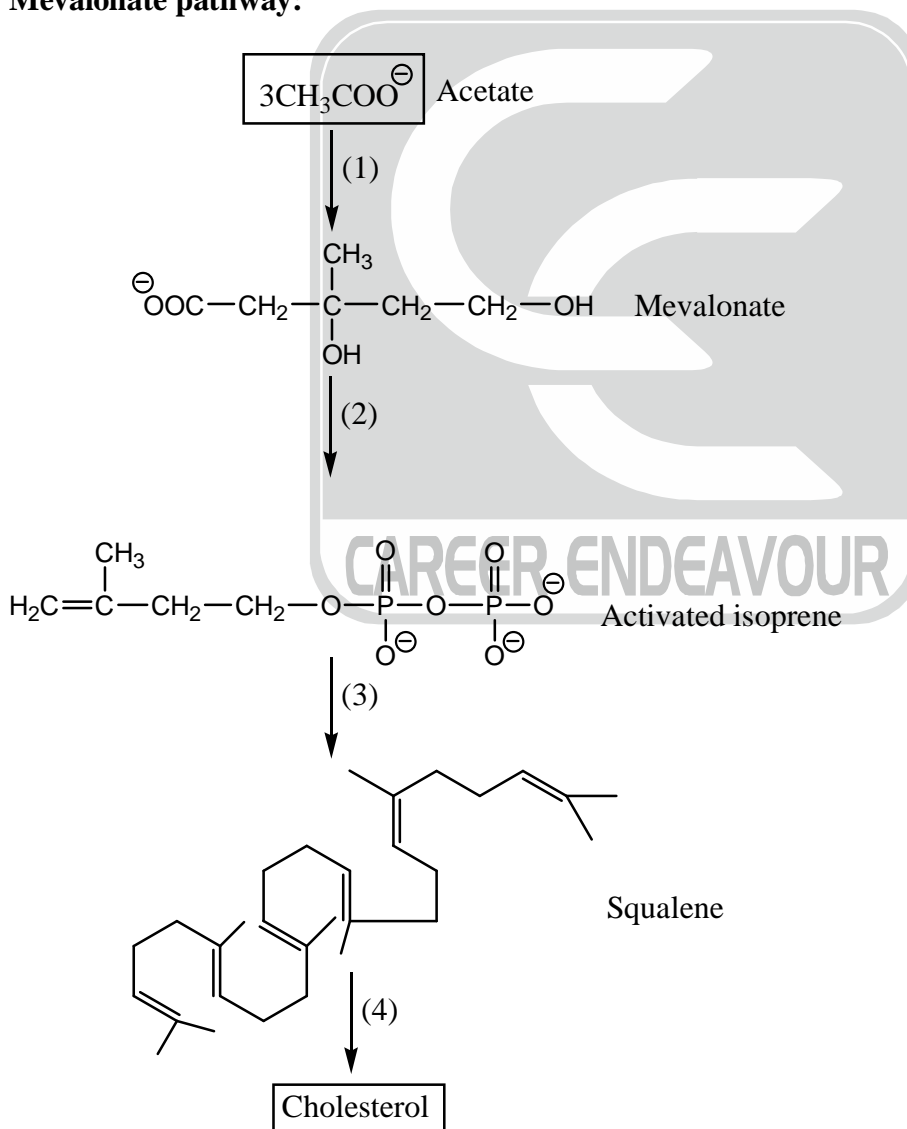
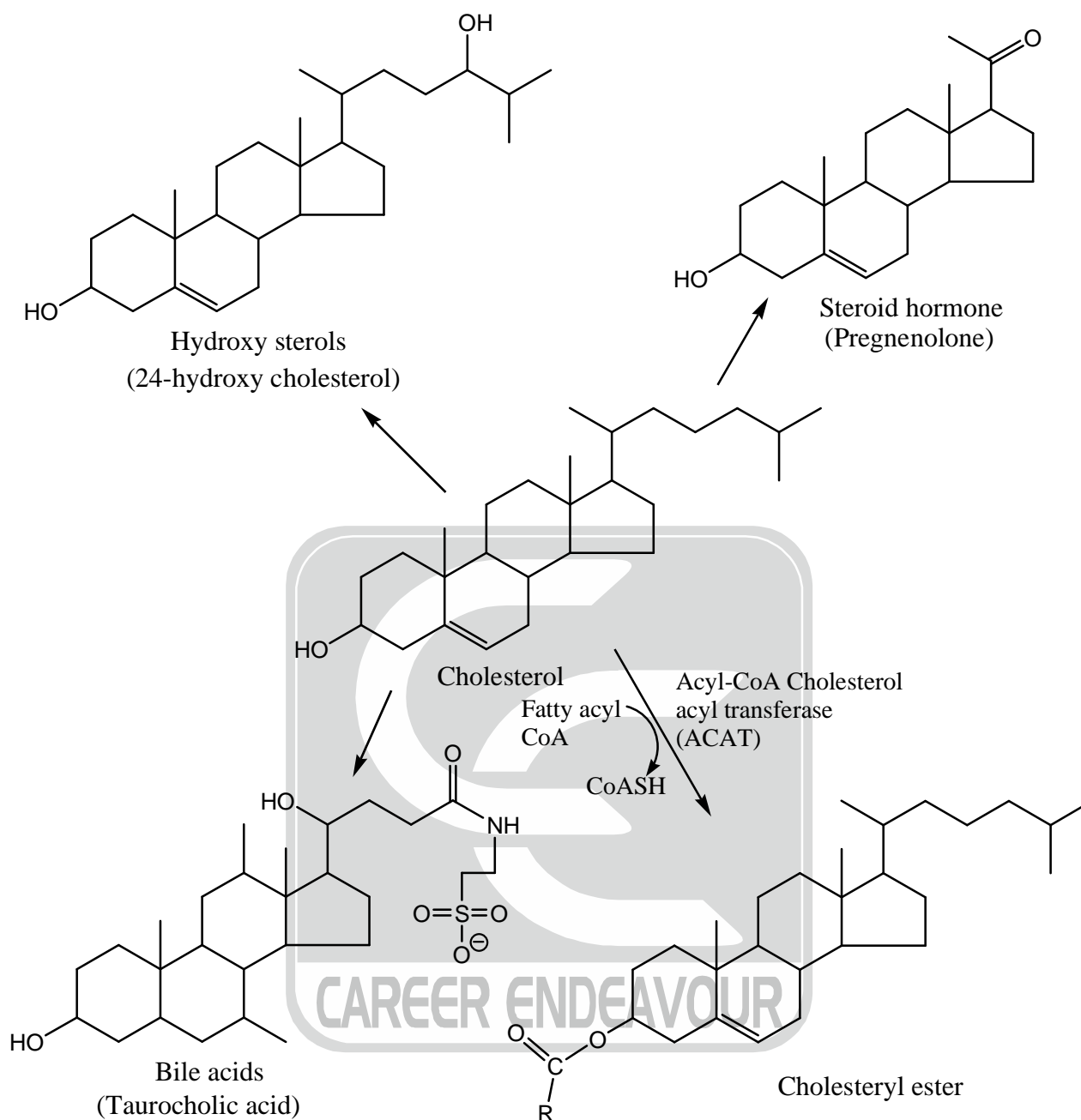


Cholesterol biosynthesis:

Cholesterol is a component of cellular membrane and is the precursor of steroid hormones and bile acids. All the 27C atoms in cholesterol comes from acetate.

**Mevalonate pathway:**

Fates of Cholesterol



Most of the cholesterol synthesis in vertebrates occur in liver. Most of them is exported as bile acids, biliary cholesterol, cholesteryl esters. In other tissues, it is converted into steroid hormones (in adrenal cortex and gonads) or vitamin D hormone (liver/kidney).

Bile acids are principal component of bile, a fluid stored in the gall bladder and excreted into small intestine to aid in the digestion of fats. These hydrophilic molecules serve as emulsifiers in the intestine, converting large particles of fat into tiny micelles and thereby increasing the surface at which digestive lipases can act. Cholesteryl esters are more hydrophobic forms which prevent it from entering membranes. They are transported in secreted lipoprotein particles to other tissues and stored in liver as lipid droplets.

Cholesterol/Cholesteryl esters are carried in the blood plasma as plasma lipoproteins, macro-molecular complexes of specific carrier proteins called apolipoproteins and various combination.