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Med Lab sci

BCH 2020

ANSWERS

(1a)Shock absorption is not a function of triacylglycerol

(1b) Fatty acids are CAROBXYLIC acids

(2) The sterol nucleus of steroid is called Gonane

(3) Chylomicrons transports dietary triglycerides and cholesterol from the intestine to adipose, cardiac and skeletal muscle from peripheral tissue and liver

(4)•Nucleus

It controls the heredity characteristics of an organism. It main cellular metabolism through controlling synthesis of particular enzymes. It is responsible for protein synthesis, cell division, growth and differentiation. Stores heredity material in the form of deoxy-ribonucleic acid (DNA) strands.

•Mitochondria

The most prominent roles of mitochondria are to produce the energy currency of the cell, ATP (i.e., phosphorylation of ADP), through respiration, and to regulate cellular metabolism. The central set of reactions involved in ATP production are collectively known as the citric acid cycle, or the Krebs cycle.

•Endoplasmic reticulum

serves many general functions, including the folding of protein molecules in sacs called cisternae and the transport of synthesized proteins in vesicles to the Golgi apparatus. Correct folding of newly made proteins is made possible by several endoplasmic reticulum chaperone proteins, including protein disulfide isomerase (PDI), ERp29, the Hsp70 family member BiP/Grp78, calnexin, calreticulin, and the peptidylpropyl isomerase

family. Only properly folded proteins are transported from the rough ER to the Golgi apparatus – unfolded proteins cause an unfolded protein response as a stress response in the ER.

(5)•Glyceroglycolipids:

a sub-group of glycolipids characterized by an acetylated or non-acetylated glycerol with at least one fatty acid as the lipid complex. Glyceroglycolipids are often associated with photosynthetic membranes and their functions. The subcategories of glyceroglycolipids depend on the carbohydrate attached.

Galactolipids: defined by a galactose sugar attached to a glycerol lipid molecule. They are found in chloroplast membranes and are associated with photosynthetic properties.

Sulfolipids: have a sulfur-containing functional group in the sugar moiety attached to a lipid. An important group is the sulfoquinovosyl diacylglycerols which are associated with the sulfur cycle in plants.n

•Glycosphingolipids:

a sub-group of glycolipids based on sphingolipids. Glycosphingolipids are mostly located in nervous tissue and are responsible for cell signaling.

Cerebrosides: a group glycosphingolipids involved in nerve cell membranes.

Galactocerebrosides: a type of cerebroseide with galactose as the saccharide moiety

Glucocerebrosides: a type of cerebroside with glucose as the saccharide moiety; often found in non-neural tissue.

Sulfatides: a class of glycolipids containing a sulfate group in the carbohydrate with a ceramide lipid backbone. They are involved in numerous biological functions ranging from immune response to nervous system signaling.

Gangliosides: the most complex animal glycolipids. They contain negatively charged oligosacchrides with one or more sialic acid residues; more than 200[15] different gangliosides have been identified. They are most abundant in nerve cells.

Globosides: glycosphingolipids with more than one sugar as part of the carbohydrate complex. They have a variety of functions; failure to degrade these molecules leads to

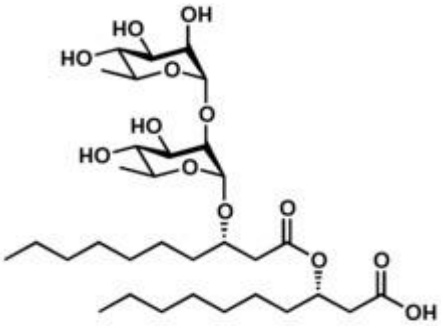
fabry disease.

• sophorolipid

is a surface-active glycolipid compound that can be synthesized by a selected number of non-pathogenic yeast species.

•Rhamnolipids

are a class of glycolipid produced by Pseudomonas aeruginosa, amongst other organisms, frequently cited as the best characterised of the bacterial surfactants. They have a glycosyl head group, in this case a rhamnose moiety, and a 3-(hydroxyalkanoyloxy)alkanoic acid (HAA) fatty acid tail, such as 3-hydroxydecanoic acid



Rhamnolipids