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18/MHS06/041

MEDICAL LABORATORY SCIENCE

BCH202

1a. Triacylglycerol do not function as a shock absorber

1b. Fatty acids are carboxylic acids

2. The sterol nucleus of steroid is called gonane ring

3. Chylomicrons transport lipids absorbed from the intestine to adipose, cardiac and skeletal muscle

4. The functional characteristics of the nucleus

The key function of the nucleus is to control cell growth and multiplication. This involves regulating gene expression, initiating cellular reproduction, and storing genetic material necessary for all of these tasks. The nucleus also regulates protein and ribosome synthesis which is responsible for reproduction roles and other cell activities.

 The functional characteristics of the mitochondria

 The main job of the mitochondria is to perform cellular respiration. This means it takes in nutrients from the cell, breaks it down, and turns it into energy. The energy is then in turn used by the cell to carry out various functions.

 Each cell contains a different numbers of mitochondria. The number present is dependent upon how much energy the cell requires. The more energy a cell needs the more mitochondria that will be present.

The functional characteristics of endoplasmic reticulum

The endoplasmic reticulum is an important organelle in eukaryotic cells. It plays a major role in the production, processing and transport of proteins and lipids.

* It is mainly responsible for the transportation of proteins and other carbohydrates to another organelle, which includes lysosomes, Golgi apparatus, plasma membrane.
* They provide the increased surface area for cellular reactions.
* They help in the formation of nuclear membrane during cell division.
* They play vital role in the formation of the skeletal framework.
* They play a vital role in the synthesis of proteins, lipids, glycogen and other steroids like cholesterol, progesterone, and testosterone.

5. Classes of glycolipids

* Glycosphingolipids: they are a class of glycolipids which contain ceramide as the lipid complex. Ceramides are amides of fatty acids with long chain di or trihydroxyl bases.

The glycosphingolipids are divided into four, which are neutral, acidic, basic and amphoteric glycosphingolipids.

* Glycoglycerolipids

Neutral glycoglycerolipids: these contain one or two sugars linked to glycerol or diacylglycerol.

Glycophospholipids: these compounds are glycoglycerolipids containing at least one phosphate group attached to either the sugar or glycerol.

Sulfoglycoglycerolipids: these compounds contain a sulfur atom and are proposed to be localized to acidic membrane.

 Example of glycospingolipids