

Which molecule is a short-term energy storage molecule?

Glycogen, a polymer of glucose, is a short-term energy storage molecule in animals (Figure 9.9.1 9.9. 1). When there is plenty of ATP present, the extra glucose is converted into glycogen for storage. Glycogen is made and stored in the liver and muscle. Glycogen will be taken out of storage if blood sugar levels drop.

Which molecule is used for long-term energy storage?

Answer: A.) lipids Explanation: Lipids are molecules that can be used for long-term energy storage. Also known as fats, lipids are organic compounds that are made of an arrangement. Answer: B.) protein Explanation: A fundamental task of proteins is to act as enzymes--catalysts that increase the rate of virtually all the chemical reactions within cells.

Which of the following is a long-term energy storage molecule?

Proteins, lipids, carbohydrates, and nucleic acids are the most common long-term energy storage molecules in cells. All four are organic compounds and are much larger in size than ATP molecules. Energy is stored in the chemical bonds of energy storage molecules and is released when these chemical bonds are broken.

Is ATP a storage molecule?

ATP is not a storage molecule for chemical energy; that is the job of carbohydrates, such as glycogen, and fats. When energy is needed by the cell, it is converted from storage molecules into ATP. ATP then serves as a shuttle, delivering energy to places within the cell where energy-consuming activities are taking place.

What molecule stores energy in a food molecule?

Food consists of organic (carbon-containing) molecules which store energy in the chemical bonds between their atoms. Organisms use the atoms of food molecules to build larger organic molecules including proteins, DNA, and fats (lipids) and use the energy in food to power life processes.

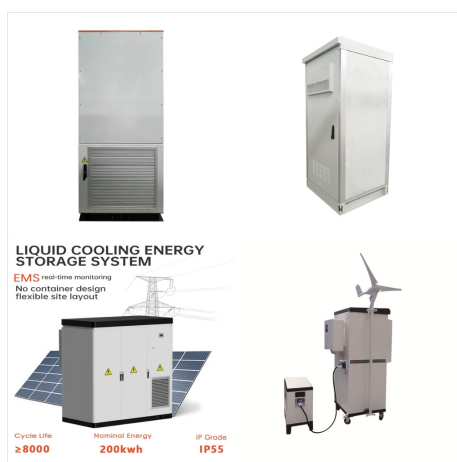
Which molecule stores the most energy?

Energy-storing molecules can be of two types: long-term and short-term. Usually, ATP is considered the most

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common molecule for energy storage, however. To understand the basis of these molecules, remember that chemical bonds always store energy. That is the crucial concept. Some bonds store more energy than others.



lipid, any of a diverse group of organic compounds including fats, oils, hormones, and certain components of membranes that are grouped together because they do not interact appreciably with water. One type of lipid, the triglycerides, is sequestered as fat in adipose cells, which serve as the energy-storage depot for organisms and also provide thermal insulation.



The simplest organic carbon molecule is methane ( $\text{CH}_4$ ), in which four hydrogen atoms bind to a carbon. However, fats do have important functions. Fats serve as long-term energy storage. They also provide insulation for the body. have a short tail. Cholesterol is a steroid. Cholesterol is mainly synthesized in the liver and is the

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Match the description on the left with the appropriate organic molecule from the dropdown. Items can only be used once. A short term energy storage polysaccharide in animals A structural polysaccharide in plants Used for the long term storage of energy in animals Stores and communicates chemical information An energy storage polysaccharide in plants Molecules in ???

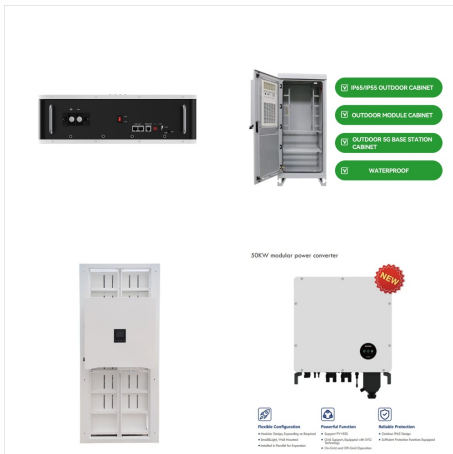


Study with Quizlet and memorize flashcards containing terms like The Short-Term Energy Storage Molecule is called?, The Long-Term Energy Storage Molecule is called?, Organic means that a molecule contains: and more.



Organic molecule that functions in short term energy storage. Glucose. Short term energy storage; blood sugar;  $C_6H_{12}O_6$ . Glycogen. Complex Carbohydrate; energy storage in animals Organic molecule that functions in long term energy storage and insulation. fatty acid. subunit of a lipid; long hydrocarbon chain. triglyceride. Lipid/fat molecule

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So far, we have discussed the carbohydrate from which organisms derive the majority of their energy: glucose. Many carbohydrate molecules can be broken down into glucose or otherwise processed into glucose by the body. Glycogen, a polymer of glucose, is a short-term energy storage molecule in animals (Figure 1). When there is plenty of ATP



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And for shorter-term storage, sugar is stored as glucose subunits in the large branched polysaccharide glycogen, which is present as small granules in the cytoplasm of many cells, including liver and muscle. The synthesis and ???



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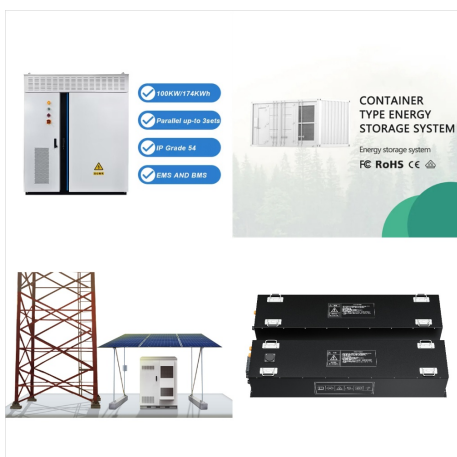


more formally called triglycerides, are the primary lipid used by animals for both insulation and long-term energy storage. Fat is distributed throughout the body, but the majority is found just beneath the skin of most animals, where it helps retain body heat. Organic molecule that contains glycerol and three fatty acids; energy storage

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??? Organic: Molecules with a carbon skeleton ???  
 Inorganic: Molecules without a carbon skeleton ???  
 Functional Groups: Determine characteristics of molecules ??? Short-term energy storage  
 Disaccharide Types: 1) Sucrose = Glucose + Fructose 2) Lactose = Glucose + Galactose 3) Maltose = Glucose + Glucose.



Which organic molecule is paired with its basic building block? to provide the body with insulation.  
 Which is a function of lipids? lipids and carbohydrates. Which organic molecules are used for long-term energy storage? carbohydrate.  
 Biomolecules contain a variety of atoms. Which biomolecule maintains a ratio of 1 carbon atom to 2 hydrogen



Study with Quizlet and memorize flashcards containing terms like Select the functions of carbohydrates. - Storage molecules for hereditary information. - Catalysts in chemical reactions. - Energy-source molecules. - Structural Components of molecules., Match the following terms with the proper description. Hydrophilic: Hydrophobic: - Nonpolar molecules are not soluble in ???

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Categorize each description or graphic into the type of organic molecule to which it applies.

Carbohydrates CHOI DNA and RNA are examples Some are used in short- term energy storage; others are used to build cellular structures. Store genetic information and use it in cells. Nucleic acids DNA and RNA are examples Hydrophobic HO OH On OHL



Jolt Energy Storage Technologies is using molecular design principles to create organic compounds that could revolutionize the field of energy storage. Jolt is developing a small molecule that enables the production of a novel flow cell battery for energy storage.



Categorize each description or graphic into the type of organic molecule to which it applies. DNA and RNA are examples Some are used in short- term energy storage; others are used to build cellular structures. Hemoglobin and enzymes are examples CH???OH H HO OH H H HOH OH Wide range of functions, from transport of substances to carrying out

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All organic compounds contain the element \_\_\_\_\_. Cellulose is used to construct what part of a cell? cell wall. What is the function of carbohydrates? store energy (short term) Which is an example of a lipid (oil, wax, fatty acid, or cellulose)? What molecule is used for LONG term energy storage? lipids. A monosaccharide is a subunit of



adenosine triphosphate (ATP), energy-carrying molecule found in the cells of all living things. ATP captures chemical energy obtained from the breakdown of food molecules and releases it to fuel other cellular processes.



Starch and cellulose are polysaccharides found in plants. Plants store extra energy in the form of the polysaccharide starch. The complex carbohydrate, cellulose is an important structural material in many plants. Animals store some extra energy (for short-term storage) in the form of the polysaccharide glycogen.



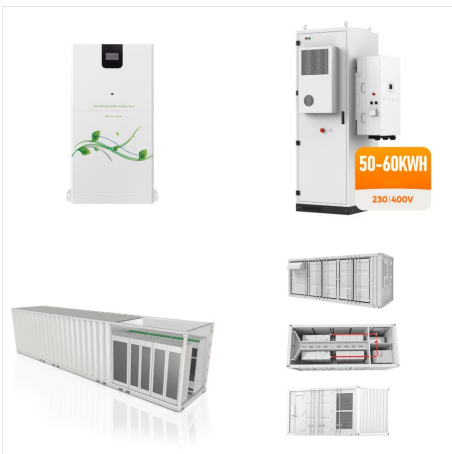
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These organic molecules are used by the body for long term storage of energy and make up the structure of cell membranes. Lipids. 5. -ose. 8. Fatty acids such as butter and oils and phospholipids are examples of this organic molecule: Lipids. 9. Examples of nucleic acids? DNA and RNA. 10. Once a new product leaves an enzyme, the enzyme is



Several of the biological molecules are used for the storage of energy, but one is the best as a long-term storage molecule. Which of the following would yield the most energy per gram of weight? a) nucleic acids like DNA b) triglycerides c) polysaccharid



Study with Quizlet and memorize flashcards containing terms like What type of lipid do plants use for long-term energy storage?, True or false: The chemistry of carbon, with its four electrons in its outer shell, is what makes it able to form diverse organic molecules., Proteins that act as catalysts in metabolic reactions are called and more.