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Mr. Speice

Biological Chemistry

07 September 2018

Terminology and Composition of Biological Chemistry

Research Assessment 2

**Date:**

**Topic:**

**Works Cited:**

Libretexts, Tim Soderberg. “Introduction to Lipid Structure.” *Chemistry LibreTexts*, Libretexts, 1

Feb. 2016, Accessed 4 Sept. 2018.

Cooper, Geoffrey M. “The Central Role of Enzymes as Biological Catalysts - The Cell - NCBI

Bookshelf.” *National Center for Biotechnology Information*, Sinauer Associates, 31 Dec.

1999. Accessed 4 Sept. 2018.

The following article by Tim Soderberg, a chemistry professor at University of Minnesota Morris, clearly introduces one of the main components of organic chemistry that helps analyze the essential need for energy sources. As per my last research assessment, this assessment will analyze the key components involved in understanding biological chemistry: carbohydrates, lipids, proteins, and nucleic acids. Lipids are fatty acid chain that play a vital role in high-energy fuel. The author clearly states why we incorporate fatty acids into our diet but also how vital lipids are in determining cell function. To my ISM journey, specifically, this means I must realize the importance of lipids in our body systems to promote and create a final product that encompasess them as a significant energy fuel. In addition, carbohydrates help yield chemical energy or use them as raw material to produce other biomolecules. Based on this information, it is evident that majority of biological chemistry revolves around the storage and use of energy. Therefore how do biomolecules help to create biofuels and other energy sources? This question will further drive my research into biochemistry.

In addition to the article written by Tim Soderberg, the U.S. National Library of Medicine article highlights the protein enzymes and their role as biological catalysts. From this article, enzymes act by reducing the activation energy, thereby increasing the rate of reaction in biomolecules. A keynote from this is the emphasis on mechanisms and regulations involved in enzymatic activity. Noticing this addition in enzyme research, it provides a template for my research in biological chemistry by helping me focus on the mechanisms in biomolecules as well.

The information found in these article is relevant to my field of study, biological chemistry, as it relates biomolecules to its function and their importance in animal and plant life, one of the main goals of biochemistry as a topic. This goal is important because it, although general, helps me gear my research towards organic compounds in the environment rather than cell composition . However, I do plan to get exposure from both specific topics by carefully researching and asking my future mentor for insight on both topics. The knowledge gained from both the fundamentals of biological chemistry and lipids is also seen in my previous research involving career outlook that describes the significance of biological chemistry. However, this research assessment goes into further depth about terminology associated with organic compounds and biomolecules.

After completing this research assessment, I was able to make connections to previous knowledge from Pre-AP biology and Pre-AP chemistry from freshman and sophomore years (respectively). From those previous classes, they analyzed organic compounds in the environment. Similarly, I was able to take those organic compounds such as carbon and further analyze them in depth in my research in ISM. In the future, I plan to take this information and somehow apply it to my final product.

Links to Annotated Websites from Scrible:

[Document](http://scrible.com/s/kIFyS) 1

[Document](http://scrible.com/s/mIFyS) 2