TITLE

Iron-Sulfur Cluster Assembly Proteins in *Landoltia Punctata*

AUTHORS

Raymond Chen[1,2], Akash Kumar[1,2], David Maxwell[1]

1. Pingry School, Basking Ridge, NJ 07920
2. Waksman Institute of Microbiology, Rutgers University, Piscataway, NJ 08854

ABSTRACT

Landoltia Punctata is a species of duckweed that has numerous future implications today. Duckweed plays a leading role as a potential biofuel source. It can accumulate 40-70% starch which can easily be converted to sugar for fermentation. Duckweed also has a role in bioremediation, using organisms to naturally clean up polluted sites. Duckweed has the ability to grow in contaminated water and degrades pollutants such as lead, arsenate, and halogenated compounds along with extracting nitrogen and phosphate from water waste. By understanding the proteins and the genome on how duckweed functions, we can obtain a better understanding of how to make use of duckweed in order to better take care of our environment and provide natural and efficient fuel. For 2016's WSSP, we worked on *Landoltia Punctata* and sequenced its cDNA, complementary to mRNA which is used in gene expression, allowing us to obtain sequences of proteins instead of noncoding regions. In our results, we obtained the DNA and amino acid sequence of an Iron-Sulfur Cluster Assembly Protein.