

International Conference and Exhibition on Metabolomics & Systems Biology

20-22 February 2012 San Francisco Airport Marriott Waterfront, USA

Interaction of fatty acid with myoglobin

Lifan Shih

University of California, USA

MR experiments have presented evidence consistent with a specific and non specific interaction between myoglobin and fatty acid. Specific interaction occurs in the structural region near heme 8 methyl, and nonspecific interaction can be observed from the increase of methylene peak in the presence of myoglobin, and the increase of solubility can also be detected from 13C labeled C1 carbon. We propose that the form of fatty acids is changed when fatty acid interacts with myoglobin such as binding, which suggests a new role for myoglobin in physiology. We also found the interaction between myoglobin and fatty acid depends on the oxygenated state of myoglobin, therefore it is possible a part of the regulatory mechanism for the utilization of fatty acid when oxygen is available.

Biography

Lifan Shih is a Ph.D candidate in the department of biomedical engineering. He works with Dr. Thomas Jue who has used advanced NMR technology to challenge the well established idea that myglobin is an oxygen transporter.