Sara Mohebbi, J Comput Sci Syst Biol 2014, 7:5
http://dx.doi.org/10.4172/0974-7230.S1.009

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Summit on
Integrative Biology
August 04-05, 2014 Hilton-Chicago/Northbrook, Chicago, USA

In vivo monitoring the intracellular pH variation upon *Aspergillus fumigatus* infection in single apoptotic human monocytes

Sara Mohebbi
Leibniz-Institute for Natural Product Research and Infection Biology, Germany

Aspergillus species, in the first place are ubiquitous fungi which ecologically tend to inhabit soil, water, vegetation and starchy products. Therefore they have an important effect on the global carbon and nitrogen reproduction chain. Also *Aspergillus* are well known opportunistic fungi that manipulate the immune system of human. Among the species, *Aspergillus fumigatus* is one of the most prevalent fungi which causes allergic forms of human disease and fatal aspergillosis. It has been previously shown that *A. fumigatus* has the following impacts on host cells: Once the conidia are inhaled, they would be phagocytosed by the epithelial cells of lung and localize into macrophages, developing aspergillosis and consequently as the infectious particles, they lead the cell entering into apoptotic phase. Also interestingly, the wild type melanotic conidia, can interfere with the intrinsic and extrinsic apoptotic pathways in macrophages and inhibit apoptosis.

Since apoptosis is a pH-dependent event, in this study the effect of melanin from *A. fumgatus* on the pH variation during the apoptosis is hyperspectrally monitored in the human monocyte. Hyperspectral imaging (also known as imaging spectroscopy) is a research technique which collects and processes data from multiple fluorescent dyes in quantitative means. By applying this method, driven spectrum from multicolored fluorescent sample, is being divided into more extended bands and consequently, the visible and graphable images are provided.

Biography

Sara Mohebbi is a research fellow and PhD student in Leibniz Institute for Natural Product Research and Infection Biology - Hans Knoll Institute (HKI), Jena, Germany. She earned her first MSc degree in Microbiology from Tehran Science and Researches Center, (Tehran, Iran) and then attended to Uppsala University, (Uppsala, Sweden) and graduated from Cell and Molecular Biology Master Program. She published a part of her first master thesis as a research paper in a scientific journal. During her current research project, on 2013 she had a successful poster presentation in V International Conference on environmental, Industrial and Applied Microbiology, Madrid, Spain.

sara.mohebbi@hki-jena.de