



Plenary 13

Pathogen-Host Cell Interplay: Glyco and Redox Scenarios

Chun-Hung (Hans) Lin

Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan

The interactions between pathogens and host cells have drawn increasing attention because the investigations often uncover new targets for therapeutic intervention. Two interesting case studies will be presented. One is linked to an intricate interplay between *Helicobacter pylori* and human gastric epithelial cells. *H. pylori* was found to induce gastric epithelial cells to secrete an enzyme, FUCA2, that cleaves L-fucose residues from the surface of the human cells, which is believed a strategy to prevent *H. pylori* from adhering to the cells. However, it appears that the pathogen has outmaneuvered the cells to take up L-fucose for additional carbon and energy source.¹

Furthermore, the molecular basis for glutathionylspermidine (Gsp) synthetase/ amidase² in redox regulation will be introduced. It not only represents a new anti-oxidative mechanism developed by *E. coli* or other bacterial pathogens to defend against reactive oxygen species released by the host cells, but also demonstrates how the bifunctional enzyme modulates the level of Gsp in response to oxidative stress.

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2. Pai, C.-H., Chiang, B.-Y., Ko, T.-P., Chou, C.-C, Chong, C.-M., Yen, F.-J., Chen, S., Coward, J. K., Wang, A. H.-J., Lin, C.-H. *EMBO J*. **25**, 5970-5982 (2006).