

244b Profiling and Quantitative Analysis of Protein Expression Controlled by Type III Secretion System of the Plant Pathogen *Pseudomonas Syringae* Pv. *Tomato Dc3000*

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Pseudomonas syringae pv. *tomato* DC3000 is an economically important plant pathogen which causes bacterial speck in tomato. DC3000 uses a type III secretion system (TTSS) to deliver virulence factors into the plant cells. Previously, we have performed 2-D electrophoresis of intracellular and secreted proteins of DC3000 and its isogenic $\Delta hrpL$ mutant (*hrpL* encodes a sigma factor of the TTSS) grown in bioreactors. Also, we have shown that the TTSS is regulated by quorum sensing (bacterial gene regulation by sensing the cell density). In this study, we discuss the use of proteomics to facilitate the annotation of the genome using 2-D gels and shotgun proteomics. The protein spots from 2-D gels were identified using MALDI-TOF/TOF mass spectrometry to generate the 2-D maps of the intracellular and secreted proteins. In total, over 1200 open reading frames were identified from this organism. Quantitative changes in protein expression for DC3000 compared to $\Delta hrpL$ mutant will be discussed. In addition, the quorum sensing signal of DC3000 was identified to be 3-oxohexanoyl-homoserine lactone using mass spectrometry. Control of TTSS using quorum sensing antagonist (5*Z*)-4-bromo-5-(bromomethylene)-3-butyl-2(5*H*)-furanone will be discussed.