

J3**Proteomic Analysis of Osmotic Stress Response in *Streptomyces coelicolor* A3(2) Using 2-Dimensional Gel Electrophoresis and MALDI-TOF Mass Spectrometry**Chang-Jun Cha*¹, Eun-Jin Lee^{1,2}, and Jung-Hye Roe^{1,2}¹Division of Life Science, BK21 and ²School of Biological Sciences, Seoul National University, Seoul 151-742, Korea

An alternative sigma factor σ^B encoded by the *sigB* gene in *Streptomyces coelicolor* A3(2) was known to be involved in the differentiation and osmotic stress response. Protein expression profiles of wild-type and a *sigB* mutant strain of *S. coelicolor* A3(2), which is impaired in defense against osmotic stress, were compared in the absence and presence of osmotic stress, using 2-dimensional gel electrophoresis. Differential protein spots from each comparison were picked, digested by trypsin, and subjected to MALDI-TOF mass spectrometry. Each protein spot was then identified by peptide mass fingerprinting using Mascot search. 17 protein spots out of 25 resulted in match scores higher than 50. Biological significance of these results will be speculated by further molecular genetic analysis of the genes encoding the proteins identified by this method.