

### Comparative Analysis of Envelope Proteomes in Escherichia coli B and K-12 Strains

한미정\*, 이상엽<sup>1</sup>  
동양대학교; <sup>1</sup>KAIST  
(mjhan75@dyu.ac.kr\*)

We analyzed the envelope proteomes of E. coli BL21(DE3) and MG1655. A total of 165 protein spots, including 62 non-redundant proteins, were unambiguously identified by 2DE and LC-MS/MS. Of these, 43 proteins were conserved between the two strains, while 4 and 16 strain-specific proteins were identified only in E. coli BL21(DE3) and MG1655, respectively. Additionally, 24 proteins showed more than 2-fold differences in intensities between the B and K-12 strains. The reference envelope proteome maps showed that E. coli envelope mainly contained channel proteins and lipoproteins. Interesting proteomic observations between the two strains will be discussed. These differences may influence the permeability and integrity of the cell envelope, showing that E. coli B may be more susceptible than K-12 to certain stress conditions. [This work was supported by the Basic Science Research Program (2010-0008826) and Converging Research Center Program (2009-0093652) through the National Research Foundation of Korea funded by the Ministry of Education, Science and Technology]