

Proteome analysis of the cyanobacterium *Synechocystis* sp. PCC 6803

Soo-Jung Kim, Young-Ho Chung and Young-Mok Park

Proteome Analysis Team, Korea Basic Science Institute,
Daejeon 305-333

Light is a main signal that regulates phototaxis of the cyanobacterium *Synechocystis* sp. PCC 6803 (Syn6803). In our previous study, Syn6803 showed positive phototaxis under low light (30 $\mu\text{mol}/\text{m}^2\text{s}$) and negative phototaxis under high light (300 $\mu\text{mol}/\text{m}^2\text{s}$). Two dimensional gel electrophoresis (2-DE) was performed to investigate proteins related with light absorption and photoprotection in the Syn6803. Wild-type cells were grown for 4 days of light/dark cycles, treated in the dark for 12 hours and then exposed to low or high light for various times. More than 700 proteins were detected on the SDS-gels stained with silver nitrate. Several proteins showing different expression levels under various light conditions were identified with MALDI-TOF mass spectrometer. Our results may help to elucidate the phototactic mechanism of Syn6803