D105 Gene Expression studies of *C. elegans calsequestrin*

Jeong Hoon Cho*, Young Soo Oh, Gye Won Park and Joohong Ahnn
Life-Science, Kwangju Institute Science & Technology

Calsequestrin(CSQ) is a calcium binding protein originally identified from sarcoplasmic reticulrum of vertebrates. It has a high capacity and moderate affinity for calcium binding. A homologous of *calsequestrin* was found in *C. elegans*(*csq-1*), which shows 50% similarity(30% identity) to rabbit *calsequestrin*. We have characterized the *C. elegans calsequestrin* in order to study its function in muscle development. Gene expression studies showed that the csq-1 is expressed during body-wall muscle development in embryo and adult stages. Cis-acting element for muscle specific expression has been identified by promoter assay using GFP reporter gene. Double strand RNA interference experiment suggested that reduction of *calsequestrin* alone not affect muscle development in *C. elegans*. Further characterization will reveal possible interaction of *calsequestrin* with other muscle related genes.

D106 Genestein, a Tyrosine Kinase Inhibitor, Blocks L6 Myoblast Fusion and Regulates Phosphorylation of the 100-kDa Protein

Jeong Heon Kim*, Jeong Yim Lee, Joo Hong Woo and Hye Sun Kim
Department of Biological Science, Ajou University, Suwon 442-749

Differentiation of skeletal muscle cells involves membrane fusion of myoblasts with the induction of regulatory and structural muscle specific genes. During myogenesis, a lot of signals which regulate the rate of myogenesis transduct via protein phosphorylation and/or dephosphorylation. We have previously reported that phosphorylation of the 100-kDa protein closely related with the differentiation of chick embryonic skeletal muscle cells. In this study, we examined protein phosphorylation during L6 myogenesis. Phosphorylation of the 100-kDa protein was found to decrease in the early differentiation stage and dramatically increase after that and reached a maximal level at around the fusion initiation time. Phosphorylation of the 100-kDa protein increased with treatment of genestein, a tyrosine kinase inhibitor, without change of the protein amount. In addition, genestein inhibited the membrane fusion of myoblasts and accumulation of creatin kinase. These results imply that a certain tyrosine kinase(s) locates the upstream of the 100-kDa protein phosphorylation and regulates the rate of myogenesis by phosphorylation of the 100-kDa protein.