E103

PKC phosphorylation disrupts gap junctional communication at G_0/S phase in clone 9 cells

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Gap junctional communication during the progression of cell cycle from quiescent G_0 to S phase was examined in cultured clone 9 rat liver cells. The transfer of scrape-loaded fluorescent dye was suppressed immediately after the stimulation of cell cycle progression in a synchronized cell population. Northern blot analysis showed that the temporal disturbance of gap junctional communication in cells passing from G_0 to S phase did not result from transcriptional down-regulation of connexin 43. It was also found that the PKC inhibitor, calphostin C, was able to restore intercellular communication in serum stimulated cells. Data suggest a control mechanism by PKC mediated phosphorylation in the regulation of gap junction function which is vulnerable to cell cycling. The loss of gap junctional communication correlated with the increased phosphorylation of connexin 43 on serine residues in clone 9 cells.

E104

Developmental Changes and Isozymatic Composition of Esterase in *Plodia interpunctella*

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Developmental changes in the isozymatic patterns and composition of esterase were investigated in whole body of *Ploidia interpunctella* by means of polyacrylamide gel electrophoresis(PAGE). A total of 12 esterase bands have been identified throughout the developmental stages. In general, the bands showing high enzyme activity were observed mainly in the mid and cathode parts of gel at larval stage, and the direction of cathode at pupal and adult stage. The stage specificity in the esterase isozyme band patterns and activities was observed in throughtout the larval-pupal-adult transformation. In particular, the enzyme activity decreased at prepupal stage and increased gradually from the 3rd day of pupa to the 5th day of adult, and the reduction was occurred again at the 7th day of adult, respectively. The isozymatic composition were examined by reaction with some inhibitors(carbamate, organophosphate and sulfhydryl reagent). The activity was the most extremely inhibited by organophosphate. A total of 7 carboxylesterase(CE), 2 cholinesterase(ChE) and 3 arylesterase(ArE) were identified based on their inhibitor specificity.