

E123

Molecular study of Insulin-Like Growth Factor-I in goat

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Insulin-like growth factor-I(IGF-I), one of the growth related factors in goat, is the target hormone for growth hormone(GH) action and probably mediates most of the growth promoting activity of GH. We prepared two clones which will be used as a probe in screening of goat genomic library. Each of them was obtained from goat genomic DNA using two sets of primers designed in exon No1, exon No5 of goat gene. And then PCR products were cloned into the pBluescript vector. By DNA sequence analysis, two cloned segments of IGF-I in korea native goat were identical to previous reported goat sequence. Now we are trying to screen goat genomic library using a probe in order to obtain genomic full sequence of IGF-I. (HRC-96-0402)

E124

Hyperpolarization by the Activation of K_{Ca} Channel Is Involved in Chick Myoblast Fusion

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Lipid composition of membrane is altered during myogenesis and the fusion of chick myoblasts is associated with an increase in membrane fluidity. In addition, K_{Ca} channel has been known to be regulated by membrane fluidity. In this regard, we examined the correlation of K_{Ca} channel activity with myoblast fusion. The activation of K_{Ca} channels upon treatment with phloretin or linoleate, that increases the membrane fluidity, dramatically hyperpolarized the myoblast membrane. Moreover, these drugs induced precocious fusion. These effects were reversed upon treatment of tetraethylammonium, a K_{Ca} channel blocker. Cholesterol, that decreases the membrane fluidity, reduced K_{Ca} channel activity and also the myoblast fusion. These results suggest that hyperpolarization, through the activation of K_{Ca} channel by the increase in membrane fluidity, plays an important role in myoblast fusion.