

Inductional Expression of the Human Lactadherin Gene in Mouse Mammary Epithelial Cells

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Lactadherin (formerly known as BA46), a major glycoprotein of the human milk fat globule membrane, is abundant in human breast milk and breast carcinomas and may prevent symptomatic rotavirus infections. In this study, under the control of mouse whey acidic protein (WAP) promoter, the expression pattern of lactadherin (Ltd) in lactogenic hormone-dependent mouse mammary epithelial cell line HC11 were tested. pLNWLtd construct containing 2.4 kilobases of the WAP promoter and 1.5 kilobases of human lactadherin gene was stably transferred into HC11 cells using retroviral vector system. Integration and expression level of the transgene was estimated using PCR and RT-PCR, respectively. Prominent induction of Ltd gene under the WAP promoter was accomplished in the presence of insulin, hydrocortisone and prolactin, while induction with insulin alone resulted in lower expression.

Our results demonstrate that the expression of the transgene is increased by synergistic effect of several lactogenic hormones, including insulin, hydrocortisone, and prolactin.

Key words) *human Lactadherin gene, whey acidic protein promoter, lactogenic hormones, RT-PCR*