

## Quantitative Analysis of IGF-II expression in mouse mammary gland by laser scanning confocal microscope

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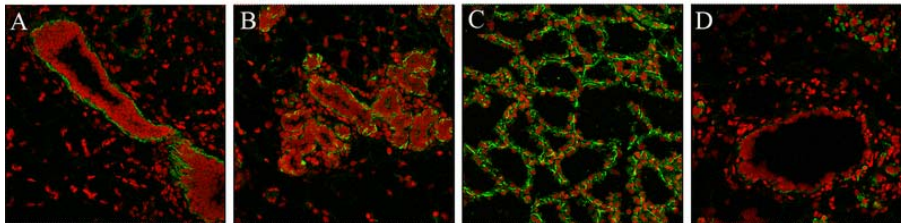
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**Abstract** In this study, the function and expression profile of insulin-like growth factor II were investigated. By confocal microscopy system, the expression of local IGF-II was detected during mouse mammary development. Immunofluorescence analysis performed on frozen sections of mammary gland tissues revealed that IGF-II has a special temporal and spatial expression pattern which never was discovered and reported [1,2]. IGF-II was localized only on basal cell membranes of duct and alveoli epithelial cells and occurred the same expression peak on the initiation of the lactation as prolactin [3], but luminal epithelial cells, adipocytes and interlobular stroma were negative. It was highlighted IGF-II with IGF-I together co-regulated the virgin mammary development (the data were not shown). The pregnancy and early lactation was thought vital periods in which IGF-II regulated mammary gland development and function. IGF-II seemed to be more important local factor than IGF-I for mouse mammary development, perhaps as a mediator of prolactin [3]. It was supported that both IGF-I and IGF-II survive mammary epithelial cells to the same extent in vitro. Overall, these data strongly suggest that IGF-II receptor may have polar expression location. What is this receptor is not clear. But it is closely related with IGF-II potential morphogenesis and lactogenic functions.



**Fig 1 Immunofluorescence analysis of IGF-II expression in mouse mammary gland**

A-D: 50th day of virgin, 6th day of pregnancy, 4th day & 28th day of lactation. Only the basal epithelia cells were strong immunostaining for IGF-II, whereas luminal epithelial cells, interlobular stroma and adipocytes were negative for IGF-II. An extremely strong staining appeared at 4th day of lactation. Late lactation, mouse mammary gland naturally involuted. Those depauperated alveoli were easily discerned by their pronounced staining for IGF-II. PI counterstain (red). Magnification, 400 $\times$ .

### References

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