Localization of Enolase in the Subfractions of a Breast Cancer Cell Line

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Enolase detected on the cell surface may be a receptor for certain ligands, especially for plasminogen. It is important for the pathogen invasiveness and in the development of a tumour. Therefore, we sought to preliminarily determine the enolase location and catalytic activity in the subfractions of MCF-7 cells. The latter was done on intact cells and in subfractions of MCF-7 cells. We identified enolase by immunoblotting. The binding of human plasminogen to enolase was performed by immunoblotting using monoclonal antibodies against plasminogen. The intact MCF-7 cells demonstrated activity of enolase. Enolase in postnuclear and perinuclear fractions is catalyticly active too. We identified the enolase protein in immunoblots of these fractions, except for the nuclear subfraction. These results provide evidence that enolase is present on the intact surface of MCF-7 cells and in post- and perinuclear fractions. The surface protein maintained catalytic activity, which suggests that its location in the plasma membrane didn't change the active centre of the enzyme.

Key words: Ũ-Enolase, MCF-7 Breast Cancer Cells, Plasminogen