

HEPARAN SULFATE PROTEOGLYCANS IN MALIGNANT CELLS

Kris Nackaerts

Acta Biomedica Lovaniensia 180, Leuven University Press.

Malignant cells are not only characterized by aberrant growth but also by their invasive and metastatic behavior. Metastatic growth of cancer cells is accompanied by changes in cell morphology, cell adhesion, migration and matrix degradation. Heparan sulfate proteoglycans are involved in cell-cell and cell-matrix adhesion, the binding of differentiation-, growth-, and scatter-factors, the control of pericellular proteolysis, and in signal transduction pathways.

The expression of the different cell surface and extracellular matrix heparan sulfate proteoglycans is markedly altered in human lung cancer tissues and lung cancer cell lines. Invasive lung cancer cells seem to lose their expression of cell surface heparan sulfate proteoglycans. Syndecans, a family of transmembrane heparan sulfate proteoglycans, are shed from the cell surface when the net intracellular tyrosine kinase activity is increased. The relevance of the tyrosine-phosphorylation of the cytoplasmic domains of the syndecans for this 'shedding' needs further investigation.

Kris Nackaerts (1961) was trained as a Medical Doctor (1979-1986), and further specialized in Internal Medicine and Pulmonary Medicine (1986-1992) at the Catholic University in Leuven. He was a research-fellow at the Laboratory of Glycobiology and Developmental Genetics in Leuven (1992-1996). Currently, he is working in the Division of Pulmonology of the University Hospitals in Leuven.

29/07/1998