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Comparative proteomic analysis of fibrosarcoma and skin fibroblast cell lines

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Comparative proteomic analysis of normal and cancer cell lines provides for a better understanding of the molecular mechanism of cancer development and is essential for developing more effective strategies for new biomarker or drug target discovery. The purpose of this study is to compare protein expression levels between fibrosarcoma and fibroblast cell lines. In our study, two-dimensional polyacrylamide gel electrophoresis (2-D PAGE) and liquid chromatography coupled with tandem mass spectrometry (LC-MS/MS) techniques were carried out to compare the protein profile between fibrosarcoma and fibroblast cell lines. We prepared cell lysate samples to analyze intracellular proteins and secretome samples to analyze extracellular proteins in both cell lines. Our results revealed 13 upregulated proteins and 1 downregulated protein of which all of them identified in fibrosarcoma cell line after the comparison with fibroblast cell line cell lysates. When comparing secretome profiles of both cell lines, we found and identified 13 proteins only expressed in fibrosarcoma cell line. These identified proteins have common functions such as cell proliferation, cell differentiation, invasion, metastasis and apoptosis in cancer. The data obtained from this study indicates that these proteins have importance on understanding the molecular mechanism of fibrosarcoma. These proteins may serve as candidate biomarkers and drug targets for future clinical studies.

Biography

Hamdi Uysal has completed his PhD in Biochemistry at the University of Nottingham Medical School (UK) in 1995. Currently, he is a Professor of Biochemistry at the Faculty of Veterinary Medicine in Ankara University since 2009. He has published many papers in reputed journals and has been serving as the Section Editor of *Turkish Journal of Biochemistry*.

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