

JOINT EVENT

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Proteomics analysis of Alzheimer's and antitumor activity of glycoproteins against bladder carcinoma permanent cell lines**Pavlina Dolashka, Voynikov Y, Velkova L and Dolashki A**
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Alzheimer's disease (AD) is the most common form of dementia. It is the sixth leading cause of death and affects nearly 30 million people worldwide. Scopolamine and streptozotocin are widely utilized in chemically-induced dementia animal models to mimic specific pathophysiological pathways thought to underline AD. To the best of our knowledge, there is no report describing proteome analysis on scopolamine or streptozotocin AD animal models. Therefore, we conducted a comparative proteome analysis on CSF isolated from rats with chemically-induced dementia with the purpose of identifying protein biomarkers. Rodents were divided into three groups: rats with scopolamine-induced dementia, rats with streptozotocin-induced dementia and healthy controls. Proteins and peptides were separated from the isolated CSF into four fractions. Two low molecular peptide fractions, with mass below 3 kDa and another with mass ranging from 3 to 10 kDa were analyzed by mass spectrometry, while two other protein fractions, with mass between 10 and 50 kDa and with mass higher than 50 kDa, were characterized by 2D-PAGE and the results were compared. The impact of hemocyanin on tumor cells was investigated by 2D-gel PAGE and several proteins showed indeed altered abundancies. The most effective inhibition of tumor cells is probably caused by a specific novel and unusual N-glycan oligosaccharide structure on HIH with methylated hexoses, an internal fucose residue connecting one GalNAc(β 1-2) and one hexuronic acid.

Biography

Pavlina Dolashka and her group has wide experience in the isolation, purification and characterization of biologically active compounds. She has more than 130 publications on these topics, 3 book chapters and 6 patents. She is Editor-in-board of 3 journals and representative IUPAC. She is coordinating several international research projects, sponsored by NATO (Brussels), the European Commission, Germany (DFG and BMBF), CNR (Italy), FWO (Belgium), China and Ukraine.

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