

Title: Production of biopharmaceuticals and diagnosis of diseases in farm animals

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The proteomic approach has aroused the interest of veterinary medicine researchers, especially regarding the production of biopharmaceuticals and diagnosis of diseases in farm animals. Water buffaloes have gained prominence in the world economy due to the quality of their milk, meat and leather, in addition to being an important donor of blood components. A new heterologous fibrin sealant has been developed from the fibrinogen-rich cryoprecipitate of the blood of *Bubalus bubalis* buffalo. It has been used in several clinical and biotechnological applications, including as biological glue in the removal of nasal skin tumors, in nerve implantation, as a biological scaffold for stem cells and in the treatment of chronic venous ulcers. However, this unprecedented description was extremely valuable because it provided a better understanding of the physiology of plasma of buffaloes, thus promoting studies in this area of animal health. This work aimed to identify and characterize the proteins present in the blood plasma of Murrah buffaloes (*Bubalus bubalis*) through 2D electrophoresis, in gel protein digestion followed by mass spectrometry technique and for albumin depletion, in solution protein digestion fol- lowed by shotgun analysis. Our results showed the identification of 112 protein spots and 35 individual proteins, respectively. The abundant proteins were represented by albumin, fibrinogen-, fibrinogen-, fibrinogen-, immunoglobulins in general, α-1-antiproteinase, α-1B-glycoprotein, α-2-HS-glycoprotein, α-macroglobulin, apolipoprotein A1, antithrombin- III, endopin 2B, fetuin-B, retinol-binding protein, serotransferrin, transthyretin and vitamin D-binding protein. Most of these proteins are related to the signaling pathways of the com- plement system and coagulation cascade. The results allowed a better understanding of the protein composition of these blood components, thus promoting studies on animal health in the search for molecular markers of zoonotic diseases in buffaloes.

Biography

Postdoctoral studies from University of Zagreb, Croatia. He develops projects of proteomic analysis in the search for exosomes in milk, serum and urine of buffaloes and collaborates with projects of Clinical Research. Made the cover of Proteomics Clinical Applications (Vol.11, Issue 9-10, Sept. 2017, article number 1600138.

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