**Development of new purification methods for proteins with key roles in cancer**

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The aim of our cooperation is the production and testing of new chelators bound magnetic nanoparticles (MNP), with special focus is on their affinity towards disordered proteins. To this aim we planned to study two series of MNP affinity carriers. One consists of MNPs that carry the trifunctional metal binder produced from EDTA anhydride on a short hydrophobic arm, while the arm is longer and hydrophilic in the other. These MPNs were produced and tested in case of two proteins (MMP9 and hMLH1). Our results show that MNPs with longer, hydrophilic arm are more effective in binding disordered proteins. Two additional MNP variants were also produced and tested; one where EDTA is replaced with DTPA and another with middle arm-length.