PROJECT REVIEW

"Detection of growth promoting peptide doping”

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The administration of recombinant human growth hormone (rhGH) and/or small peptides, i.e. GH releasing factors (GHRF) that stimulate the endogenous production of GH have increased recently as a result of the availability and lack of sensitive tests. Two independent immunoassay methods are currently being employed to detect rhGH doping as well as mass-spectrometric approaches to find GHRFs.

Our research proposal encompasses projects designed to investigate how the use of rhGH and GHRFs affect the traditional markers as well as putative markers such as miRNA. We will conduct a study in healthy male volunteers that will be given rhGH (Somatropin – two different doses) daily for one week. Some participants will be given two doses of sermorelin (Geref), a GHR peptide, for one week. Urine and serum samples will be collected several times prior to the administration in order to study the different markers longitudinally. Moreover, the steroid profile will be monitored in relation to hrGH/GHRP administration in order to see how the biomarkers of the different ABP modules interact. The use of small GH-releasing peptides is difficult to study in controlled settings since small peptides are not available as traditional drugs. Here we will use samples from patients, both men and women, self-reporting doping with peptides (as well as other doping agents) in order to see which peptides can be identified with the different approaches.