Project Proposal for Masterthesis
(Master of Science in Epidemiology / Master of Science in Public Health)

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Title	Association of pregnancy associated plasma protein A2 (PAPP-A2) with insulin like growth factor 1 (IGF-1) and insulin like growth factor binding proteins (IGFBP) in humans.
Background / description	Insulin like growth factor-1 (IGF-1) plays an essential role for growth and development in humans. It is involved in a number of biological processes, including insulin and glucose metabolism, and, may also be relevant for development and progression of cancer. IGF-1 bioavailability is regulated by IGF binding proteins (IGFBP), which circulate in human plasma. Pregnancy associated plasma protein A2 (PAPP-A2) is a protease of IGFBP5 that based on animal models has originally been reported to be of placental origin and to be relevant for prenatal growth. Preliminary data from human studies suggest that PAPP-A2 also circulate in plasma among adults; however, the role of PAPP-A2 in adulthood is unclear. The aim of this study is, therefore, to study the association of PAPP-A2 with IGF-1 and IGFBPs in humans. This will be conducted in a cross-sectional study, including 400 men and women.
Tasks	Literature search, development of study objectives, hypotheses, and analysis plans, data analysis and interpretation, publication of results
Prerequisits	Strong interest in biomedical research questions, preferably a master degree in a biomedical field (medicine, nutrition, biology, biochemistry). Basis knowledge in epidemiology, biostatistics and statistical analysis programs (SAS, SPSS, …).
Number of available positions	1