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Master thesis: Effects of patient/healthcare handling on protein drugs

Are you interested in how we can improve the biological drugs of the future and want to learn how important handling of protein drugs are for their efficacy? Would you like to work in an innovative-driven environment with experts in formulations for pharmaceuticals, foods, cosmetics, and cleaning? We are now seeking a Master student with an interest in protein drugs to explore how patient handling affects protein stability.

Background

The number of protein drugs on the pharmaceutical market increases yearly. One drawback with these larger and more complex classes of pharmaceuticals are their chemical and physical stability. Few studies have focused on how incorrect handling of the drugs, by for example patients and healthcare personnel, affect protein drugs stability. Structural changes of the protein drug may lead to adverse immunological reactions which leads to unnecessary patient suffering and cost for the health care. This project work will be a part of the IMI financed RealHOPE project (www.realhope.se) investigating and simulating the impact of real-life handling of protein drugs.

Goal

The aim of the project is to set up simulations of real-life handling of protein drugs to investigate impact induced structural changes of protein drugs e.g., shaking, dropping of syringes. The work will include setting up reproducible laboratory simulations of mechanical stresses that simulates possible real-life events during drug handling. As well as, set up methods for characterization and analysis of any structural changes or aggregation of the proteins (for example by using Flow cam, DLS, zeta sizer or UV Vis).

Requirements/knowledge

For this diploma work, the student should be enrolled in a master program in pharmacy, biotechnology/chemical engineering or similar, and have background knowledge on protein stability.

Terms

Project period: Spring term 2023, 30 hp. Start upon agreement.

Placement: RISE, Malvinas väg 3, Stockholm.

Application

Apply here: <https://www.ri.se/sv/jobba-hos-oss/lediga-jobb/master-thesis-effects-of-patienthealthcare-handling-on-protein-drugs>

For questions and more information, please contact Lina Nyström (lina.nystrom@ri.se, +46 10 516 65 33) or Ulla Elofsson (ulla.elofsson@ri.se, +46 10 516 60 40)

Last day for application is 31 December 2023. Interviews with candidates will be conducted continuously, and decision of acceptance can be made at any point.