

EXJOBB PÅ GE Healthcare

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här:

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Plan for 20p masters degree project at Chemistry department at GE Healthcare

Title: Optimization of protocol for purification of low expressed GST-tagged proteins

Affinity tags are commonly used to fish out recombinant proteins expressed in an organism (expression system) such as bacteria (e.g. E. coli), yeast (e.g. Pichia pastores) mammalian cells (e.g. Baculo virus) etc. The two most common tags are the poly histidine tag and glutathione S-transferase (GST) which has affinity towards glutathione. The benefit of the GST tag is the high selectivity which results in high purity after purification. The GST tag also increases the solubility of hydrophobic proteins due to the size of GST.

In this diploma work the focus will be on purification of low expressed GST-tagged fusion proteins. Results from customers and in house experiments have shown poor yields of low expressed GST-tagged fusion proteins compared to the performance when loading higher expressed fusion proteins. The major object of this work will be to develop purification protocols aiming to increase the recovery of low expressed proteins. Valuable tools in the purification and analysis of GST-tagged proteins will be: Commercial available lysis methods for disruption of cells, different chromatography techniques using both manually hands on and ÄKTA design systems, and different detection methods will be tested. The most common protein detection methods such as SDS-PAGE, western blot, mass spectrometry and a specific GST detection assay will be used to determine the properties of the GST-tagged fusion protein of interest.

The described diploma work will be done within The Lab Format Function section, in the Chemistry Department, R&D. Lab Format Function consists of 14 highly skilled people most with a background in Bio-chemistry or Molecular Biology. The major accountability for the section is new product development within the areas lab scale protein preparation, purification and detection.

For further information please contact Jon Lundqvist (tutor) T: + 46 18 612 15 41 or Recruiting Manager Maria Liminga T: + 46 18 612 11 42

We need your application no later than June 12, 2009.