Protein Purification Group

The University of Kansas
Protein Purification Group (PPG)
Dr. Michail Alterman, Director

http://www.brsl.ku.edu

A Core Laboratory of the
Center of Biomedical Research Excellence in
Protein Structure and Function

Robert P. Hanzlik, PI

http://www.medchem.ku.edu/COBRE/

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Protein Purification Group

Protein Purification Group Contact Information:

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Protein Purification Group

The COBRE-PPG Mission:

1. **Overexpress and purify** properly folded functional proteins in quantities sufficient for:
   functional studies (catalytic, biological)
   binding studies (small ligands or macromolecules)
   structural studies (X-ray, NMR)
   HTP Screening operations

2. Assist investigators in **characterization of proteins** using modern analytical methods including 2D-electrophoresis, isoelectric focusing, peptide mapping, capillary HPLC, surface plasmon resonance, MALDI-TOF MS and MS/MS

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Protein Purification Group

Major Equipment:

- Shaker-incubator
- Automated fermentation (1-10 L scale)
- Åkta Purifier FPLC system and coldbox
- Åkta FPLC system and coldbox
- Constant Systems Hydraulic Cell Disruptor
- Biacore 3000 Surface Plasma Resonance system

Note: The PPG (Cobre Core C) is hosted within the University of Kansas Biochemical Research Service Laboratory (BRSL), a member of the Molecular Structures Group (MSG) of Service Laboratories:

http://msg.ku.edu/~msg/

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Protein Purification Group

Dr. Boris Kornilaev operating the Biacore 3000

Dr. Tatyana Duzhak using the Åkta Purifier

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Protein Purification Group

"Basic Z" Cell Disruptor

- Handles samples from a few mL to a few hundred mL.
- Piston forces material through jet onto a cooled surface, then recycles.
- Operating pressures 15-40 KPSI (1000-2700 bar).
- Flow rates 115-40 mL/min.

There is no charge to use this device!

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Protein Purification Group

Who can access PPG services? **Everyone!**

- The PI should contact the PPG Director (malterman@ku.edu) to set up a meeting to discuss the anticipated project.
- An essential purpose of this *required* meeting is to discuss the project goals, the materials and work that will likely be required to achieve them, who is responsible for which parts of the project, and the time and costs that will likely be involved.

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Protein Purification Group

Is there a cost for PPG services? Yes.

The PPG and its staff are supported in part by a COBRE Grant from NIH-NCRR. **All clients benefit from this subsidy**.

Other costs must be recovered from clients served, but every attempt is made to keep the fees low and the service of high professional quality.

For information on rates please see:
http://www.medchem.ku.edu/COBRE/Core_C_advert_050209.pdf

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Protein Purification Group

University of Kansas Molecular Structures Group

http://msg.ku.edu/~msg/

NMR Lab (small molecules and proteins)
Mass Spec Lab
X-ray Lab (small molecules)
Molecular Graphics and Modeling Lab
Biochemical Research Service Lab, including the
COBRE Protein Purification Group (Core C)
Protein Structure Lab (COBRE Core B)
Analytical Proteomics Lab

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