



Protein Technologies

What we do

How do plants defend against infection?

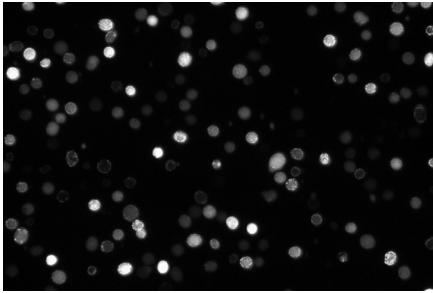
Proteins are the molecular machines that carry out all important biological processes. Recombinant protein production is necessary to uncover how these molecular machines function. ProTech has produced several proteins involved in regulating plant defenses to infection, which were further studied by researchers from the Gregor Mendel Institute for Plant Molecular Biology, to better understand how plants respond to pathogens.

Fighting *Staphylococcus aureus*

In another project, ProTech assisted researchers at Arsanis Biosciences in characterizing several proteins involved in virulence of the *Staphylococcus aureus* bacteria by performing biophysical characterization experiments on components of *S. aureus* toxins.

Cellular events leading to colon cancer?

ProTech also assisted researchers at the Max. F. Perutz Laboratories to perform genome engineering experiments used to characterize the role of the protein HuR in early cellular events leading to colon cancer.



Eukaryotic cell culture facility



Aekta PURE



Microscale Thermophoresis

Services and Methodologies Provided

ProTech provides services surrounding recombinant protein production and genome engineering, including:

- Molecular cloning/Generation of expression constructs
- Protein production in *E. coli*, insect cells, HEK293 cells
- Protein purification and purification training
- Protein biophysical characterization and training
- Generation of reagents for CRISPR/Cas9 genome engineering

We are also happy to provide consulting on all aspects of recombinant protein production and CRISPR/Cas9 genome engineering projects.

Equipment

• Eukaryotic cell culture room

ProTech has a well-equipped cell culture facility for culturing of insect cells and HEK293 cells in suspension, as well as adherent cell culture of other mammalian cell lines. A Neon electroporation system is available for electroporation of protein-RNA complexes for CRISPR/Cas9 genome engineering, and a fluorescence microscope with multiple filters is used to monitor protein production and other experiments.

• Aekta PURE system

ProTech operates three Aekta systems for protein purification, a newer Aekta PURE and two older Aekta Purifiers. After purification training, the systems can be booked by users.

• Microscale Thermophoresis and other biophysical techniques

ProTech provides full service as well as training and access to several types of protein biophysical characterization techniques, including Circular Dichroism, Microscale Thermophoresis, and Dynamic Light Scattering.

Contact and Location

Protein Technologies

Vienna Biocenter Core Facilities (VBCF)

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