

## Equipment

### Cell growth

**Fermentors.** BioEngineering NLF22 fermentors allow precise control of multiple experimental parameters (pH, dissolved oxygen, temperature, and nutrient feed). The NLF22 fermentors are suitable for volumes up to 12L and are sterilizable-in-place.



### Shaking incubators

Large-volume: The PETC has a variety of bench top (New Brunswick Innova 40 and Innova 4000) and floor shakers (New Brunswick Innova 44 and Innova 4300) including models allowing cell growth at low temperatures.

Small-volume: A Shel-Lab SI6R-HS refrigerated 96-well plate shaker holds 12 96-well plates and is ideal for small-scale protein expression screening. The combination of small orbit and high rpm (up to 1000) allows the growth of 1 ml bacterial or yeast cultures to high cell densities. Well-expressed proteins can be purified in 96-well format, often with yields in the 100-200 µg range.

### Cell Lysis

We have a Misonix sonicator (with a 96 tip horn for processing 96-well plates), French Press, and Avestin Emulsiflex C-3.



### Protein Purification

The PETC has Bio-Rad Biologic HR and Bio-Rad DuoFlow chromatography systems for low to medium pressure chromatography. The DuoFlow is located in a 4°C cold box.



### Other Equipment

The PETC has a variety of centrifuges (Beckman J6B, Beckman J26xp, Sorvall Legend RT, Sharples T1 continuous flow, microcentrifuges), PCR thermal cyclers, and agarose and SDS-PAGE gel electrophoresis equipment.