

Proteins Production and Purification Platform

Purified proteins for science

The PFP3 platform is developing a range of services to supply on demand recombinant or natural proteins for research. The aim is to satisfy precise and demanding needs in terms of amount and quality. Proteins are produced and purified using a variety of techniques according to needs. The expertise deployed includes analysis and adaptation of protocols to provide a 100% customized offer, as close as possible to the user's needs.



Expertises

- **Project management**
Analysis and development of protocols, implementation, analysis of results, advice and recommendations, expert report
- **Protein engineering**
Genetic modification, codon optimization
- **Production in bacterial system**
Choice of strains, media and culture conditions
- **Chemical and/or physical extraction**
Lysosyme, ultrasound, pressure, DNase treatment
- **Automated purification**
IMAC, IEX, SEC, HIC chromatographies
- **Packaging**
Buffer change and concentration
- **Quality control**
Quantification, purity and integrity

Focus

> Created in 2020 by and for the activities of the Chemistry and Biology of Metals laboratory, the platform benefits from facilities within the unit perimeter and is approved for GMO use.

> It is run by an engineer with over 20 years experience in the field and accompanied by two qualified operators.

> Its services are open to the French academic and industrial communities since 2023.



Services

- Expression and/or solubility **tests**
- Recombinant protein **production** from 0.1 to 40 L of bacterial culture
- Protein **extraction** by bacterial lysis
- Protein **purification** in one or more steps: 0.5 to 200 mg protein, 70 to 98% purity, packaging on demand
- Protein **quality control**: concentration, purity, integrity, oligomeric state, secondary structure...

Technology and tools

- **Bacterial culture**: 15 expression strains, various culture media, 6 incubators, 1 bioreactor, centrifuges
- **Bacterial lysis**: 2 sonicators, 1 French press, 1 microfluidizer, 2 ultracentrifuges
- **Automated protein purification and conditioning**: 1 FPLC, dialysis and concentration systems
- **Columns and resins**: affinity, ion exchange, hydrophobic interactions, size exclusion, desalting
- **Quality control**: UV-Visible spectrophotometers, nanodrop, Bradford and Rose Bengal assays, SDS-PAGE gel, spectropolarimeter (CD), fluorimeter, SEC-MALLS system

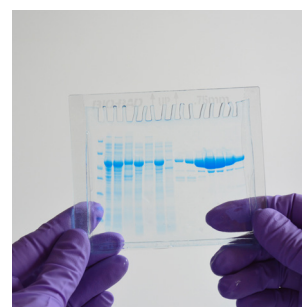
Highlights

Purified proteins

- Transport: ATOX1, Nika, SufC
- Transcription: PerR, Fur
- Metal-binding: SNCA, CooT, TKT, IscU, SufB
- Transferase: IscS
- Oxydoreductase: E4PD
- Signal: Ergothionase

Protein applications

- Crystallography
- Screening for specific ligands
- Protein materials development
- Selective enantiomerics
- Kinetic studies
- *In vitro* or *in vivo* reactions



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TO DEVELOP YOUR PROJECT

<https://www.cbm-lab.fr/Pages/Plateformes/PFP3.aspx>

HEAD OF PLATFORM

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