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Science Together

55 Years
Science Together



Programm

1. What is FPLC?

Concept and systems

2. How to purify?

Overview of common separation modes, applications and purification strategies

3. Troubleshooting

Tips and tricks for FPLC Users

4. Application Highlight: Automized 2-Step antibody purification

5. Discussion and Farewell



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What is FPLC?

Concept and systems

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Pressure

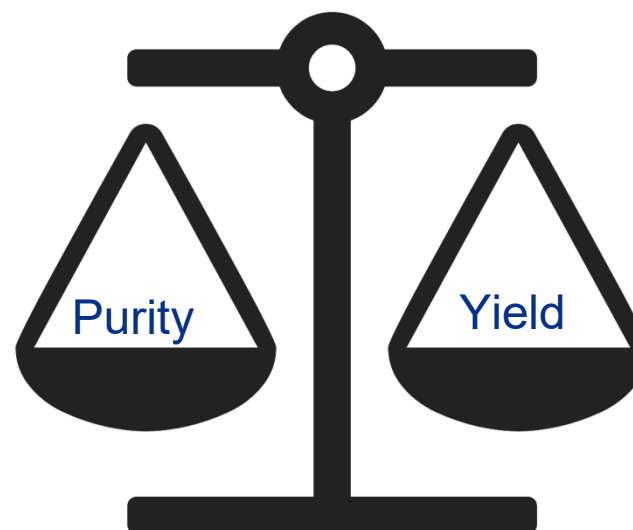
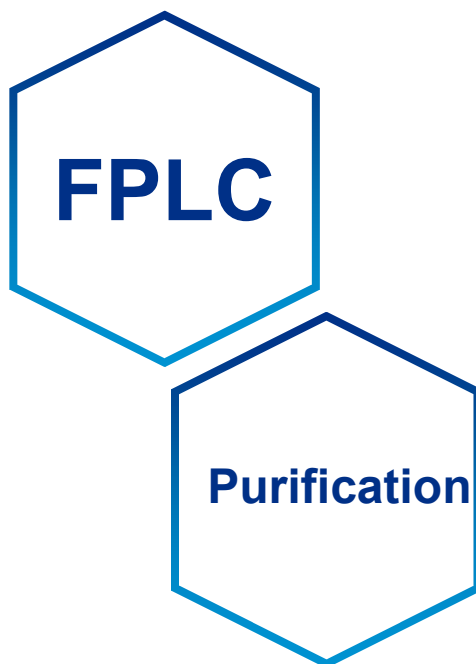
HPLC

vs

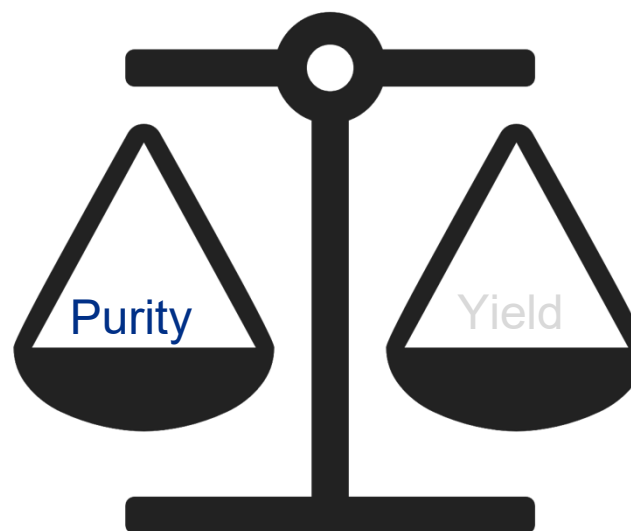
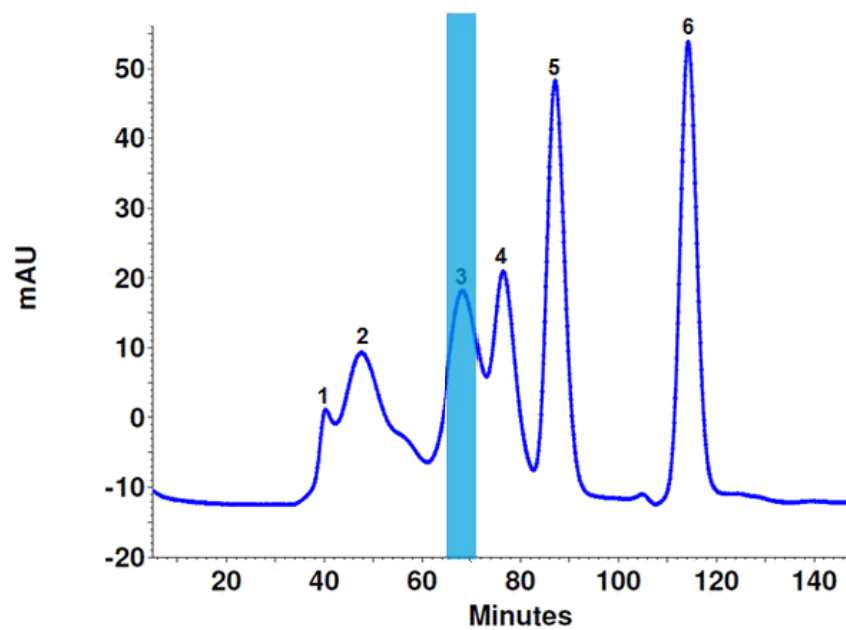
FPLC



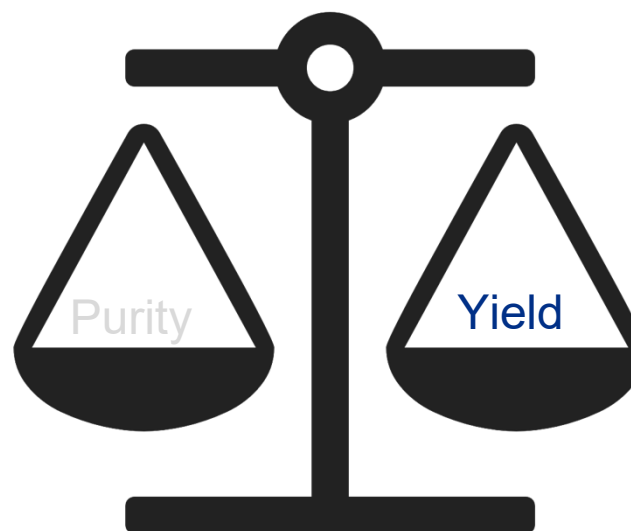
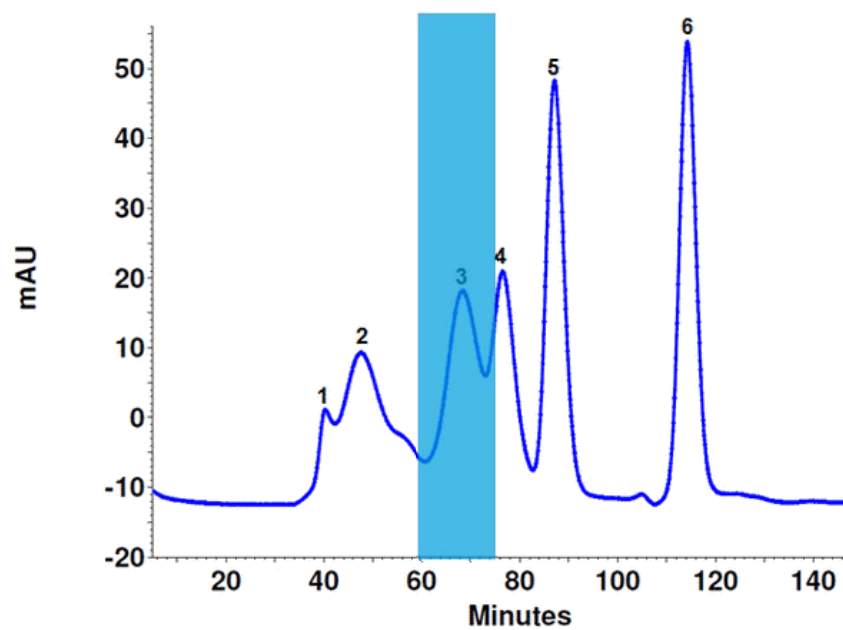
Scope



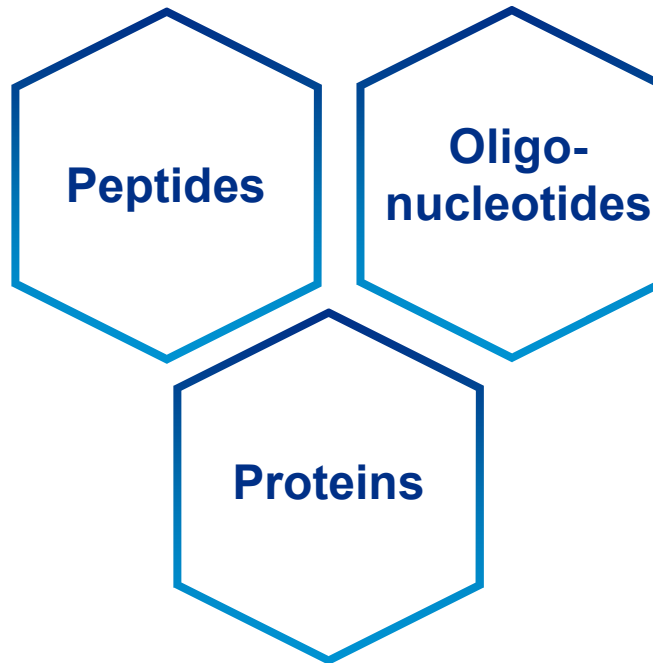
Purification



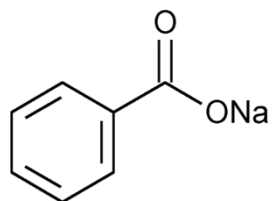
Purification



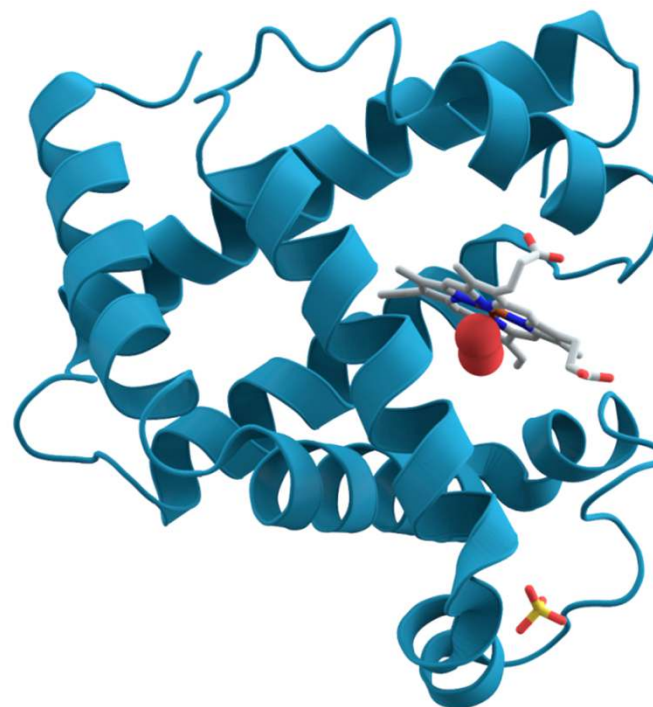
Samples



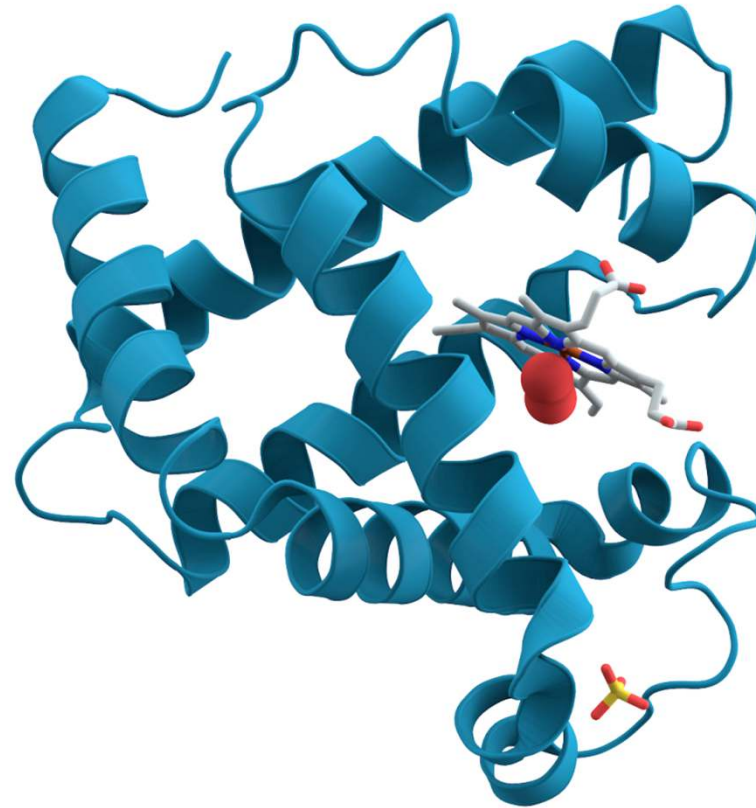
Samples



VS

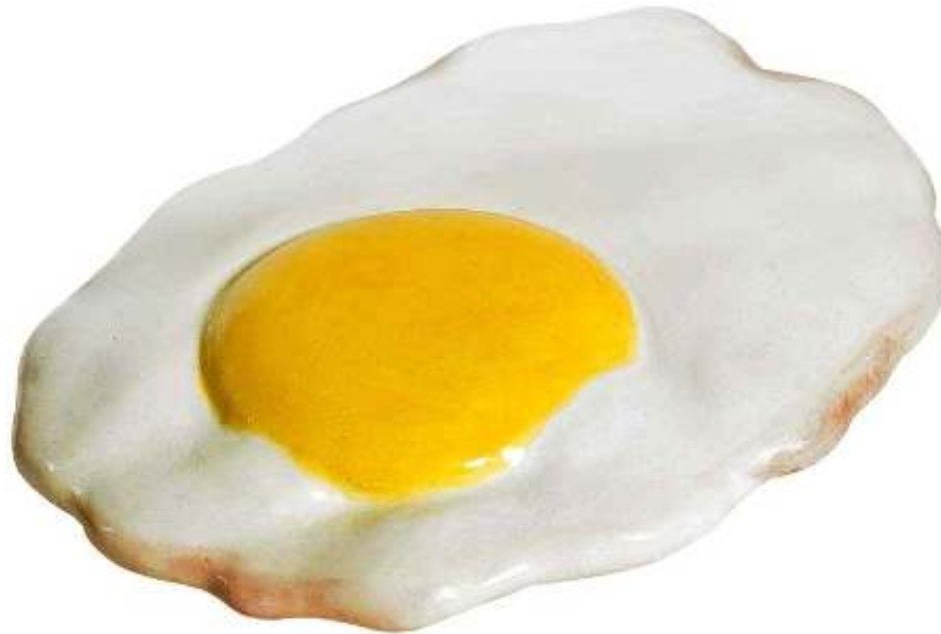


Native conditions



Native conditions

**Very
sensitive to
temperature**



Native conditions



VS



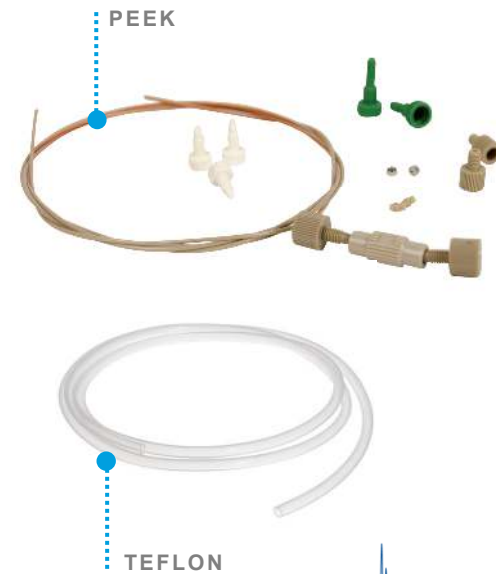
Biocompatibility

**Classical
HPLC**

**Stainless steel
interferes with
purification**

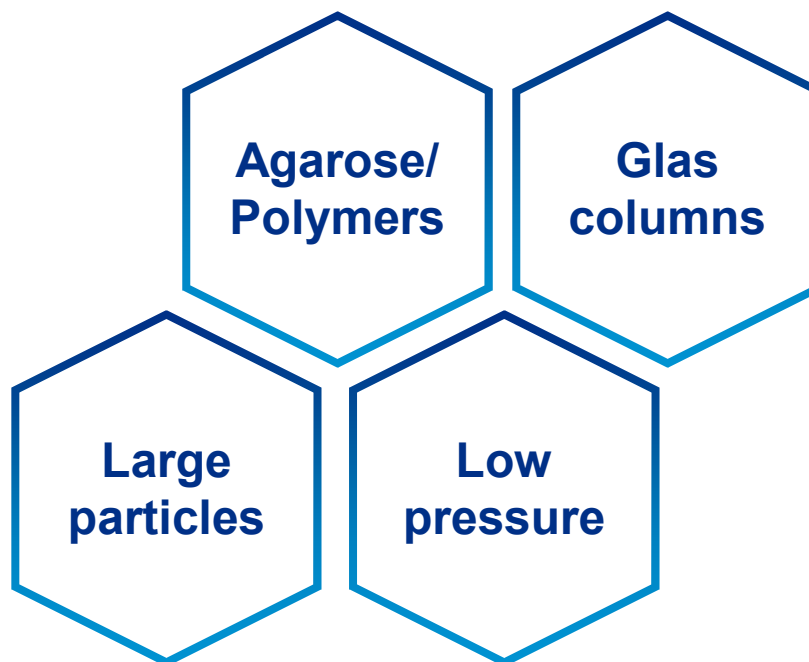


Biocompatibility



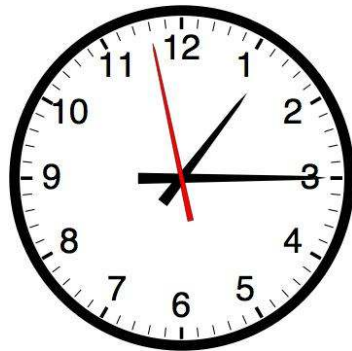
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Phases/Materials

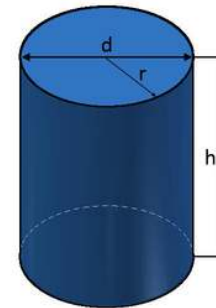


Software

Analytical software



FPLC software




Software

Programming Mode

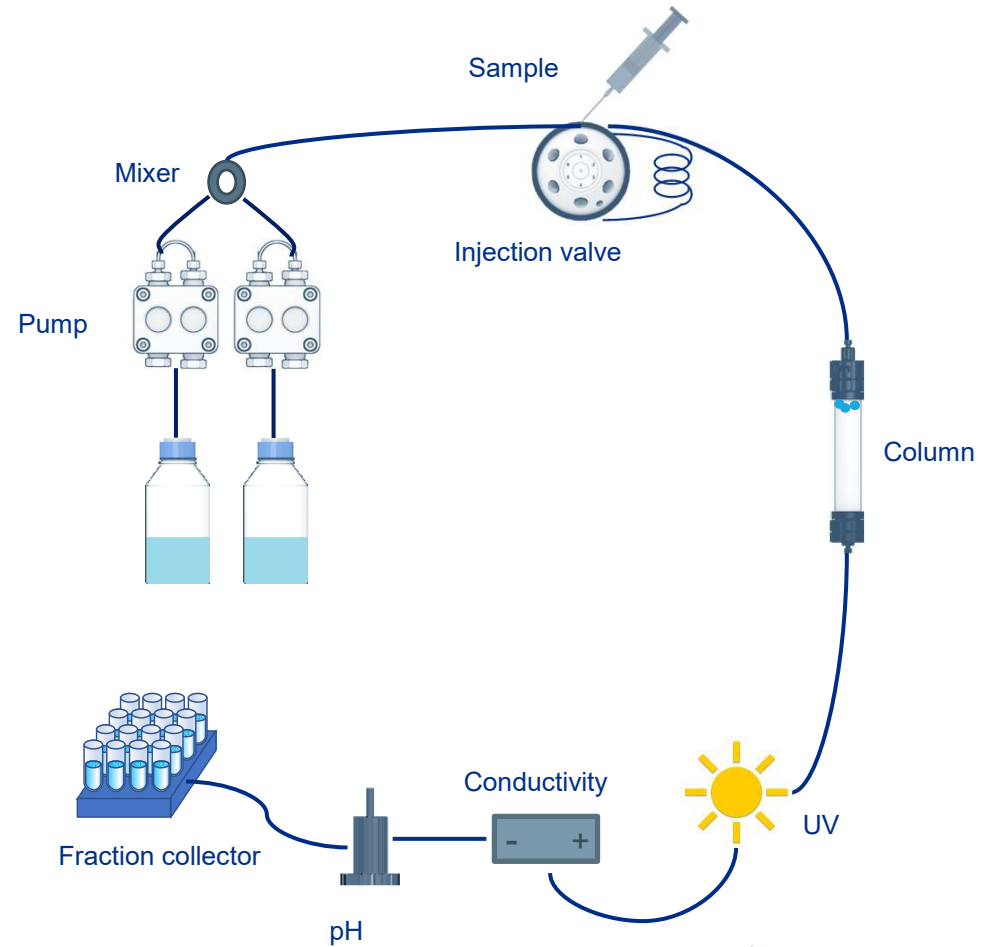
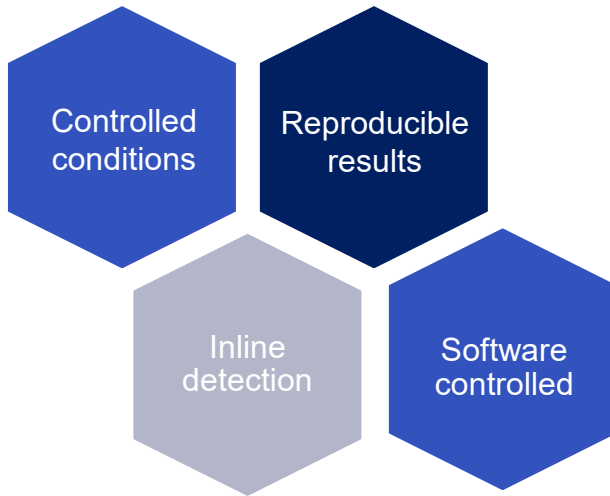
Time: min h
 Volume: µl ml l
 Column Volume µl ml l

Volume Calculator

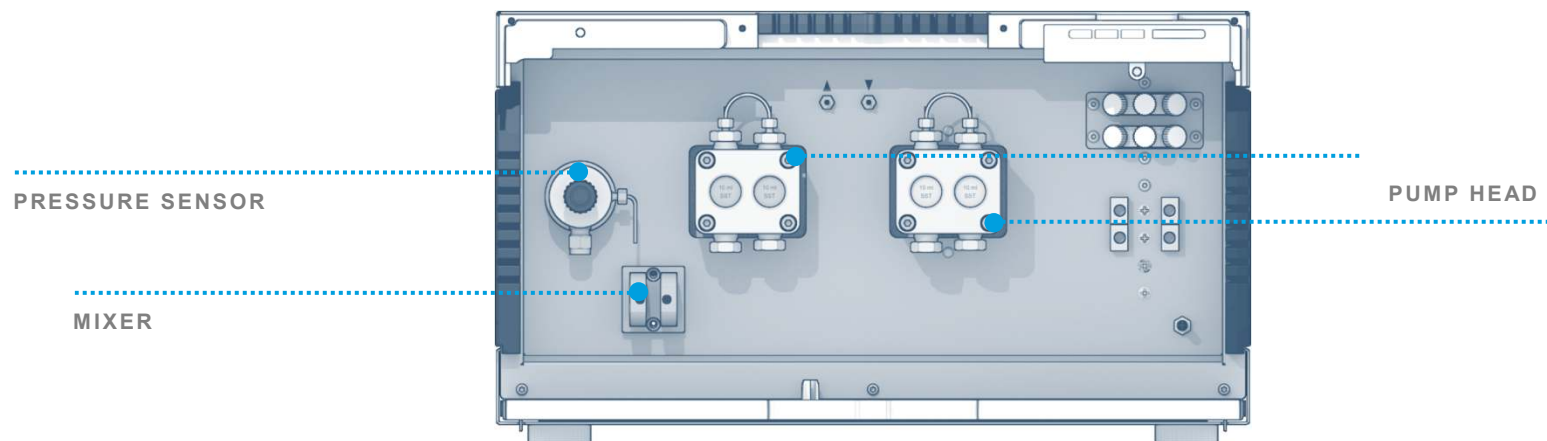
Length: [cm] 

Diameter: [cm]

The FPLC system



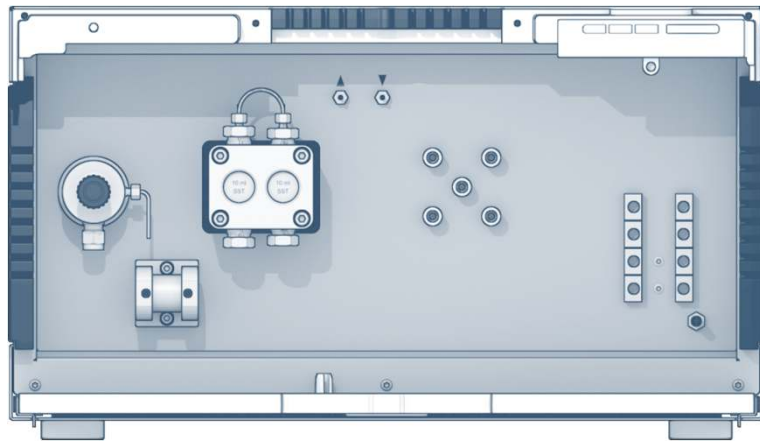
The pump



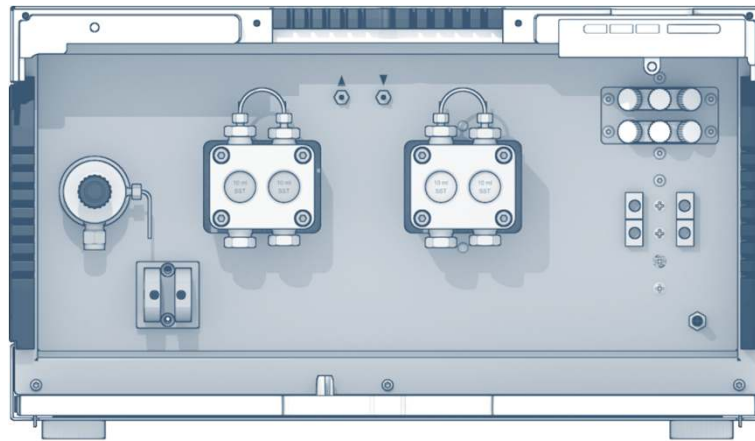
isocratic

gradient

The pump

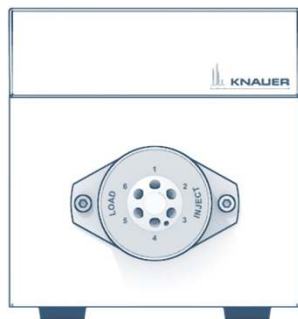


LPG

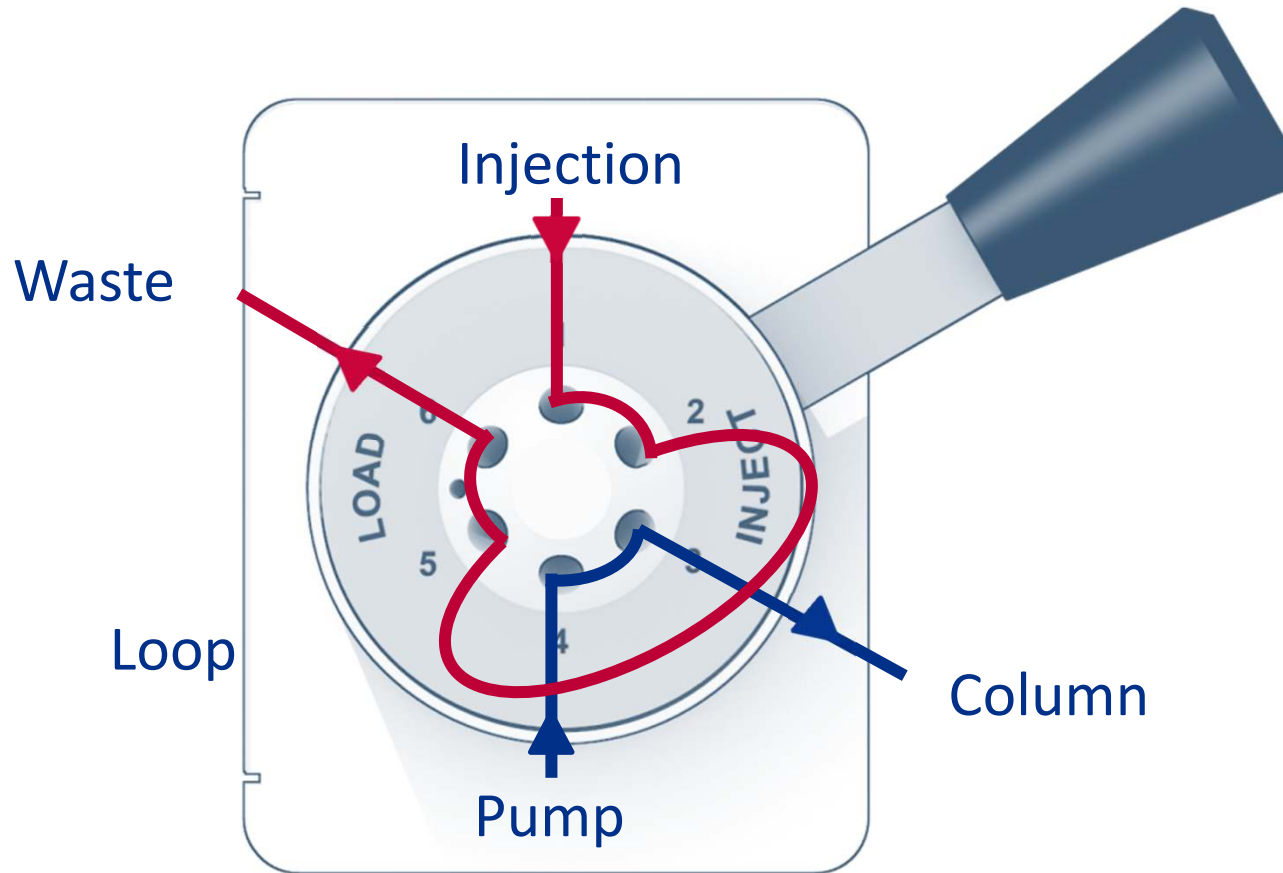


HPG

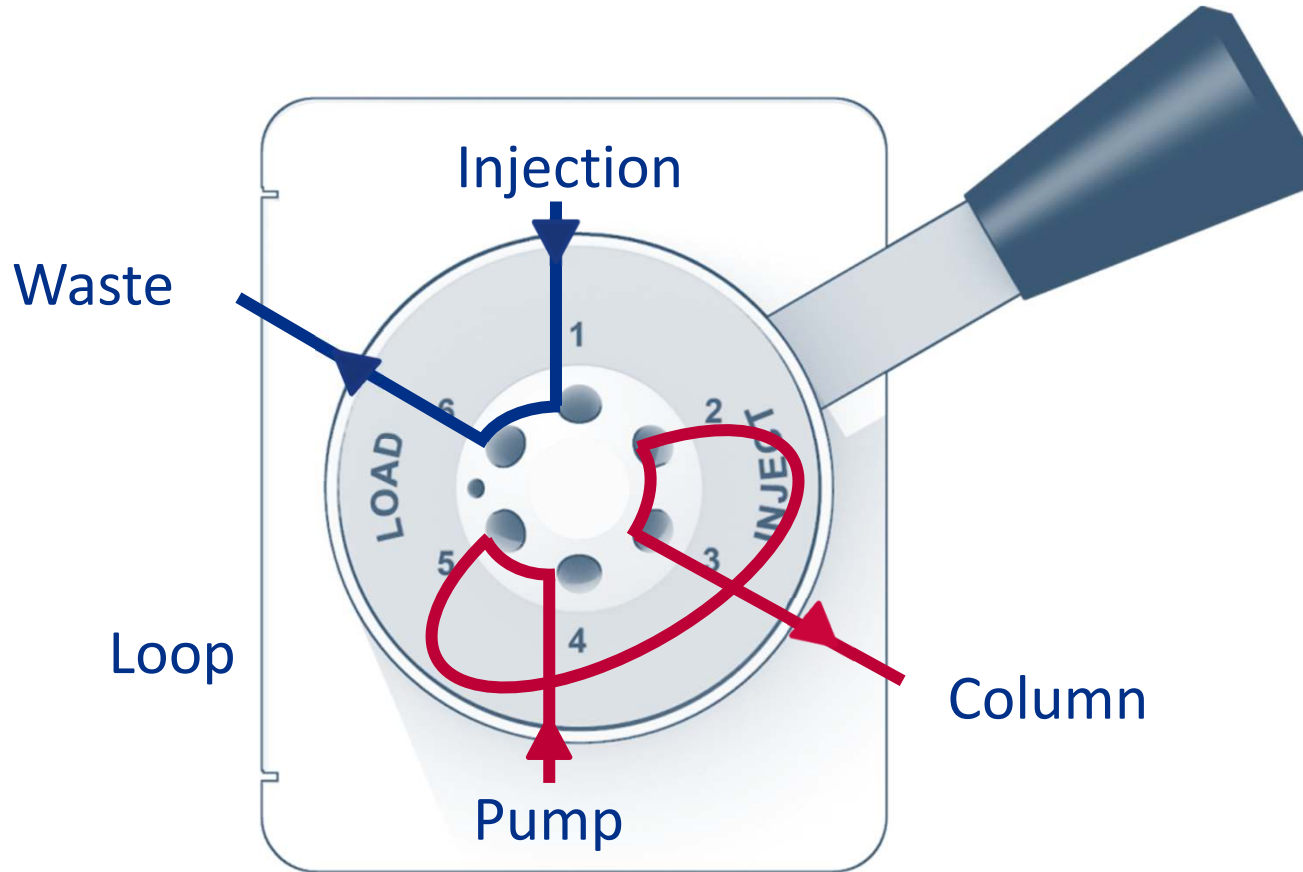
Sample injection/loading



Load



Inject

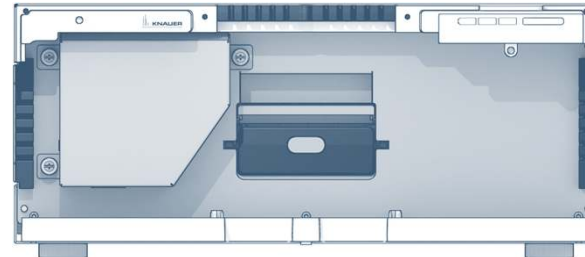


UV Detection of proteins

**Single
wavelength**

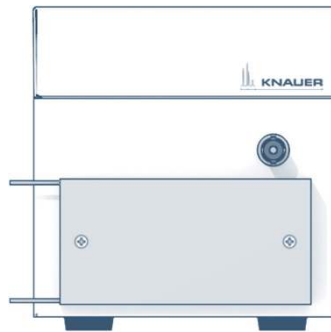


**Multiple
wavelength**



Detection

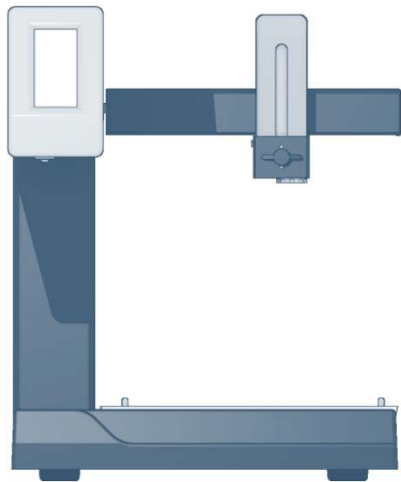
**Conductivity
monitor**



pH electrode



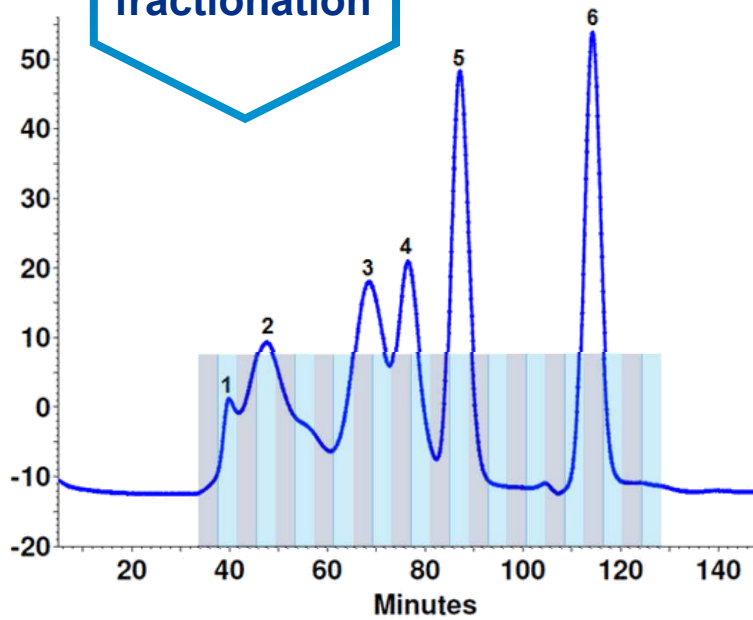
Fractionation



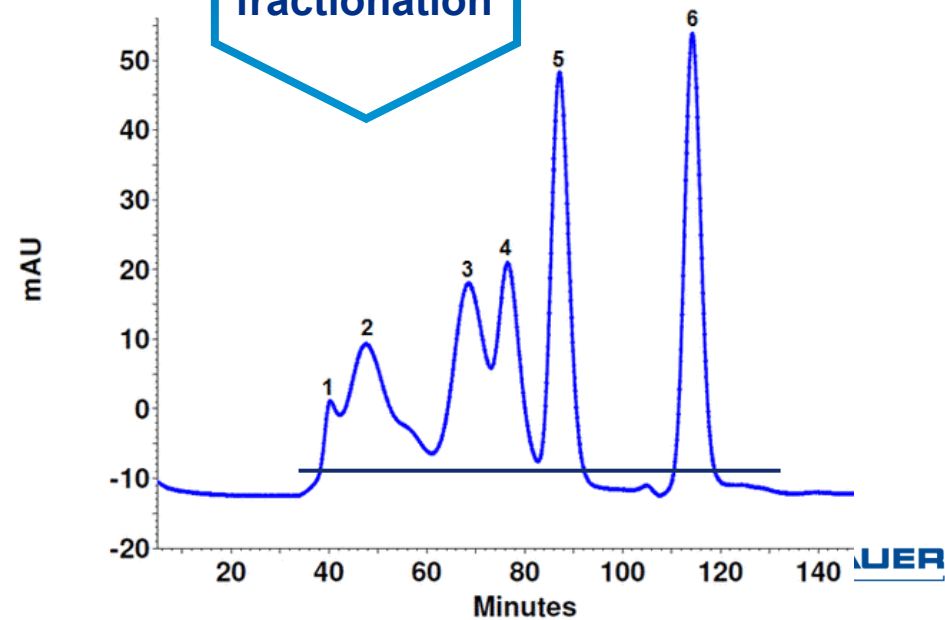
Aim is to
collect
purified
protein

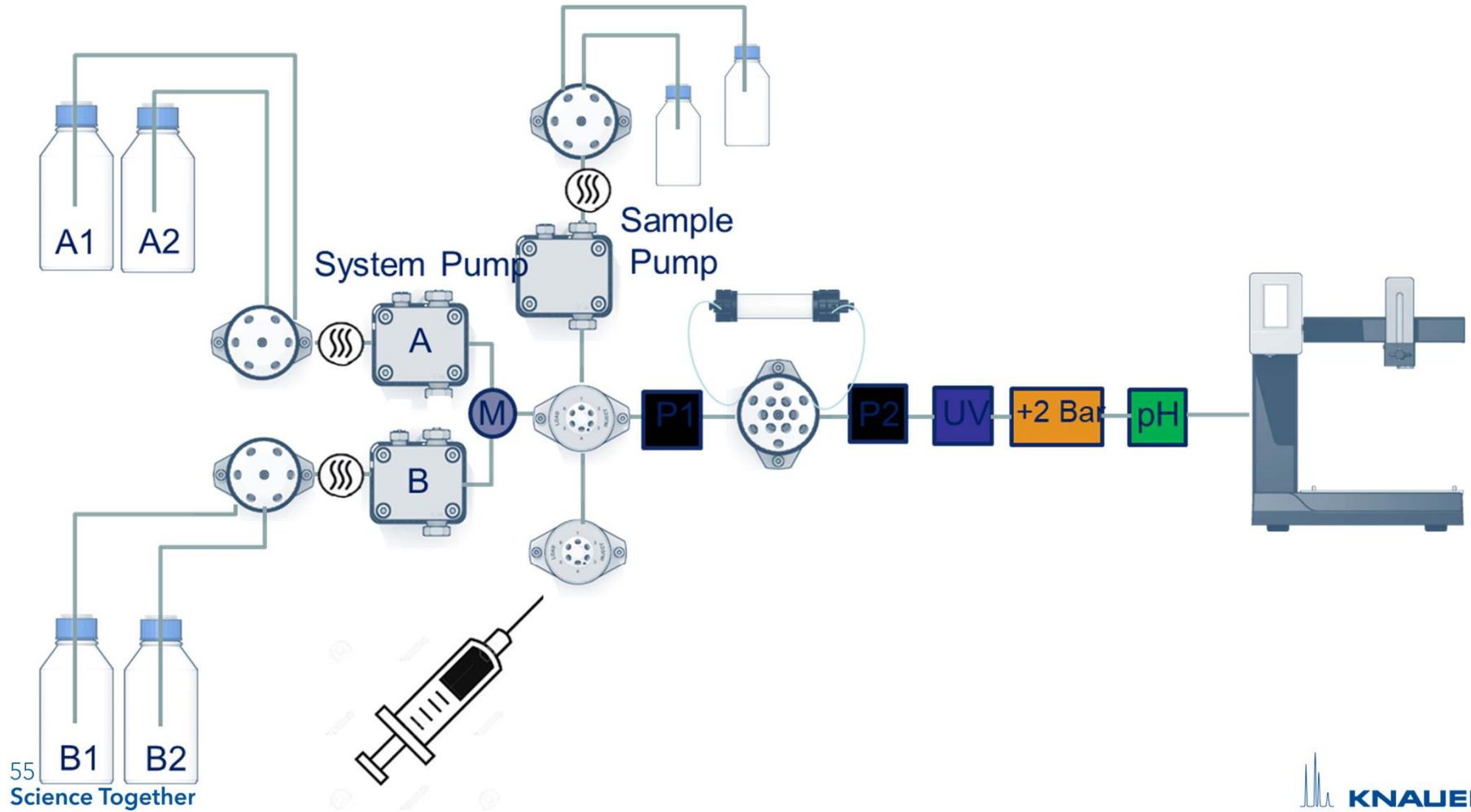
Fractionation

Time/volume
based
fractionation



Threshold
based
fractionation







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Analytical
HPLC

Multi-Column
Chromatography,
SMB

Preparative
HPLC

FPLC

Osmometry

Dosing,
Metering,
Pumping

Detection



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Science Together



We separate molecules and
unite people.

KNAUER is an established
partner in science.

We are curious
and creative.