Al-Mustaqbal University

College of Science

# Biochemical Techniques

1st Lecture

# Tissue Homogenization

Second Year Students / 2nd semester / 2024-2025

*By*

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# Homogenization is a technique used in tissue preparation

Tissue preparation is needed in several application areas, including research, pharmaceuticals, molecular biology, food science, forensics and toxicology.

# Homogenization

•Means to prepare uniform dilution of a known quantity of tissue suspended within a known quantity of a suitable diluents and uniformly macerate or crush the tissue in such a manner as to disperse minute fragments of tissue evenly throughout the mixture.

•Tissue homogenization is a process used to prepare tissue samples for certain types of studies.

•It involves lysis or breaking cells to release their contents

# Homogenization

Tissue Sample

Blender

Homogenate

Potter-Elvehjem

French Press

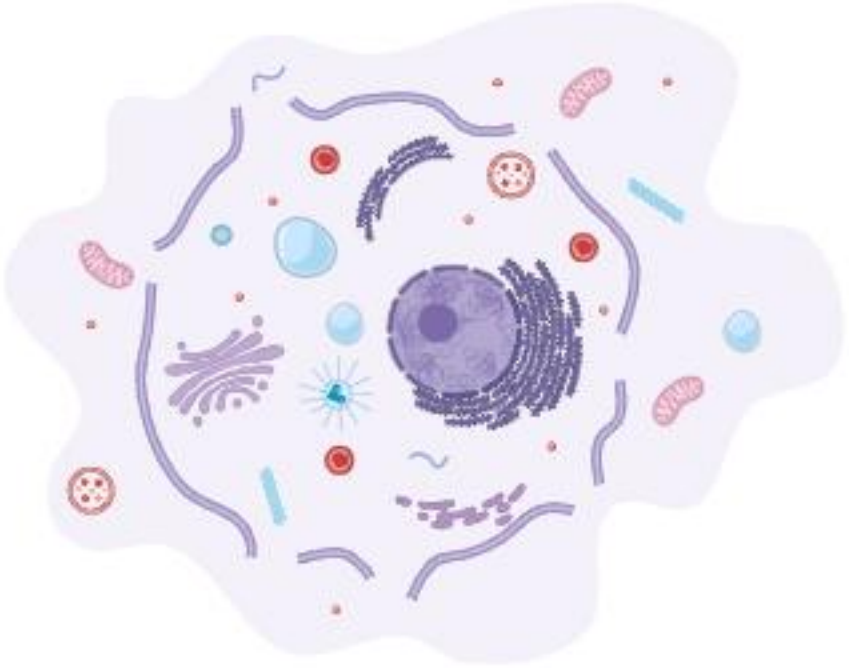
Sonication

Detergent or
Organic Solvents

# Cell lysis and disruption:

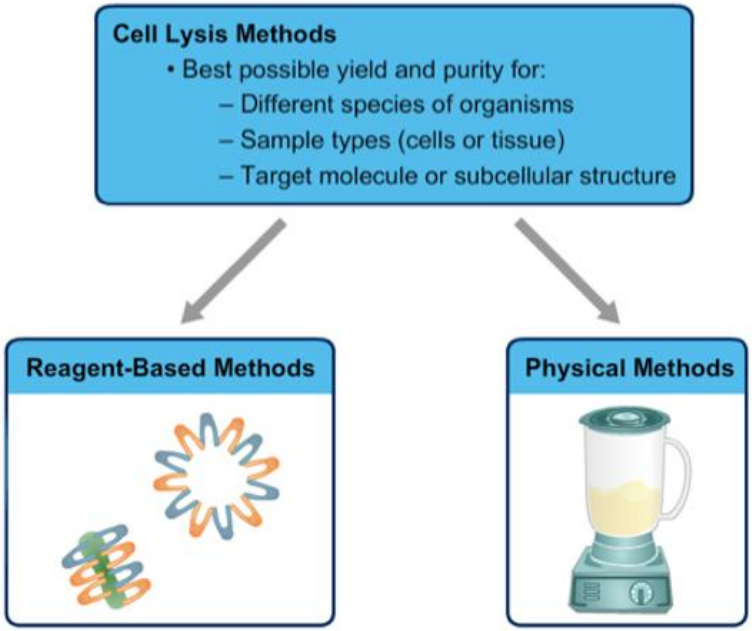
- Cell lysis is the first step in cell fractionation, organelle isolation and **protein extraction and purification.**

- **Many techniques ???**



# Cell lysis and disruption methods:

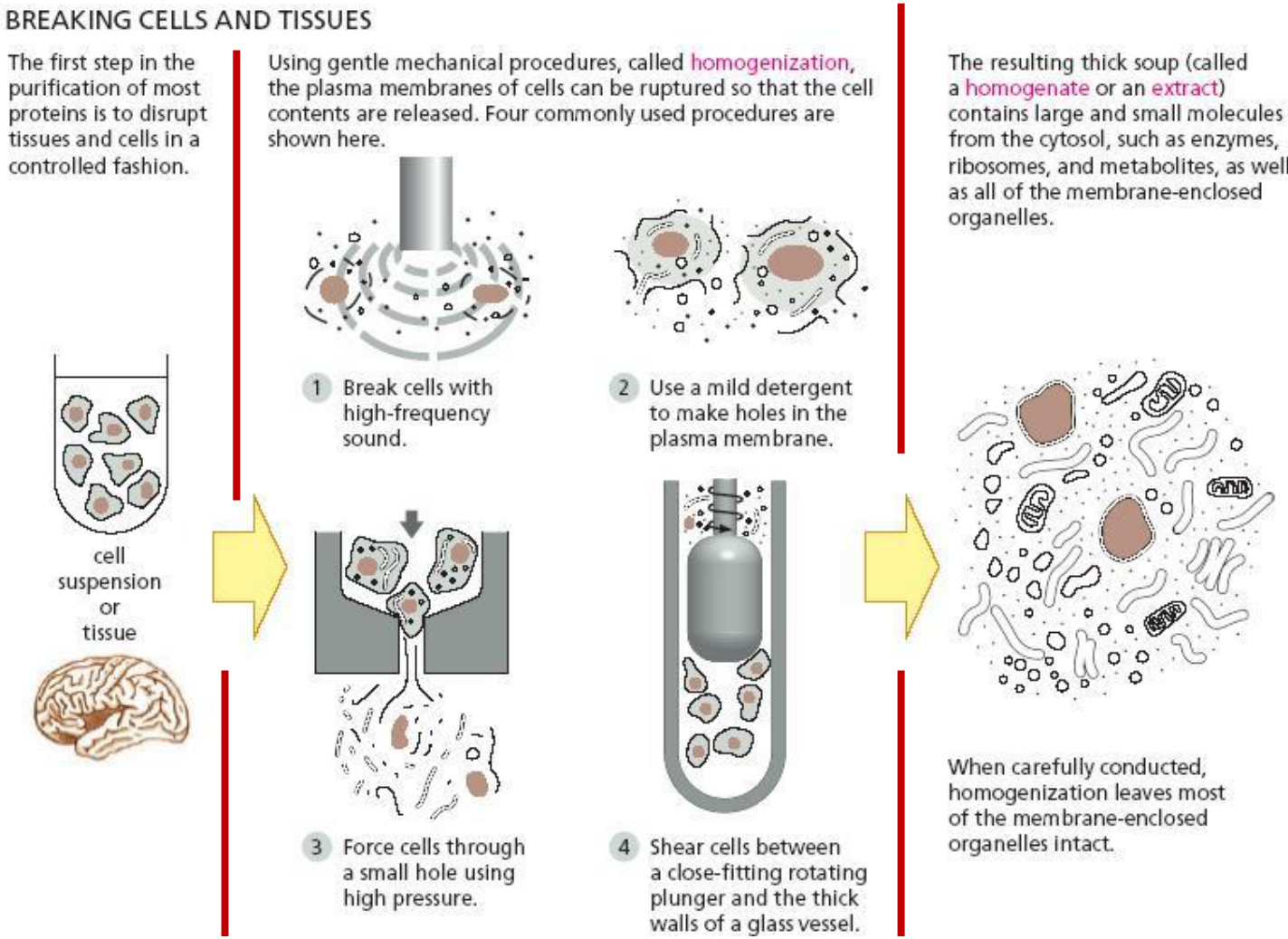
- Mechanical and non-mechanical methods.




Traditional Methods for Cell Lysis - Thermo Fisher Scientific

[Traditional Methods for Cell Lysis - Thermo Fisher Scientific]

# Cell disruption by different mechanical and non-mechanical methods:






"Homogenization." Biology Forums Gallery, 4 Mar. 2014, https://biology-forums.com/index.php?action=gallery;sa=view;id=15348. Accessed 29 Sep. 2024.