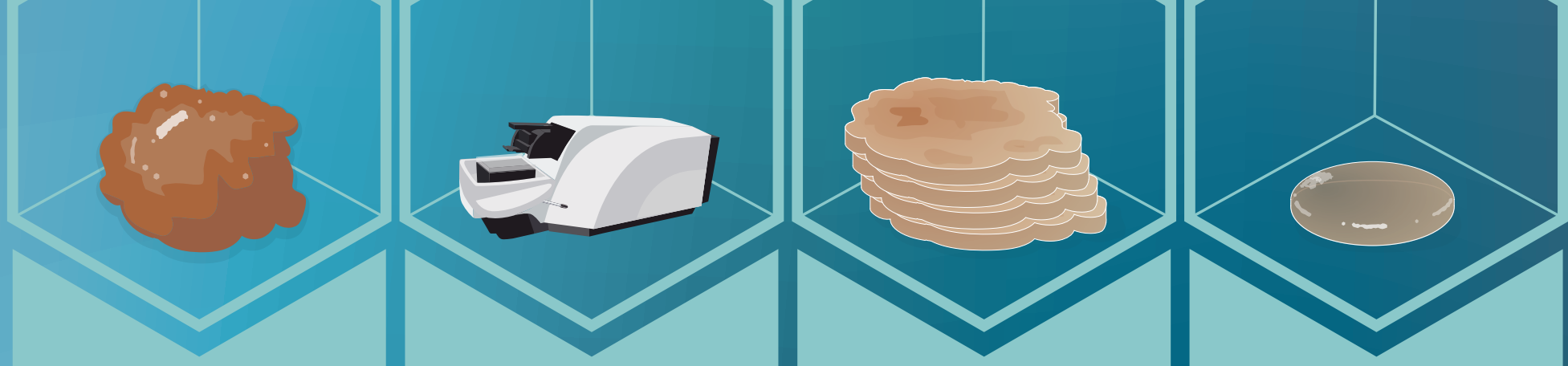


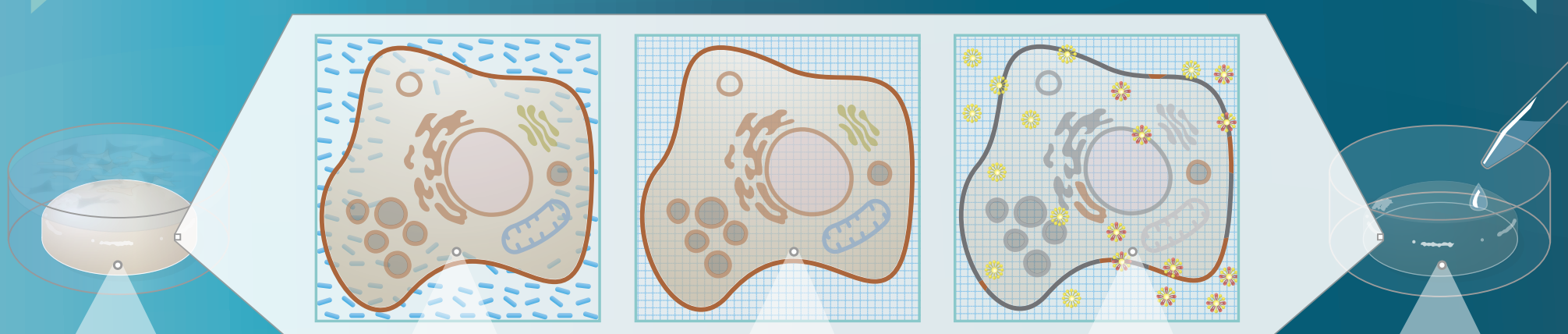
Mouse or Human
Tissue / Tumor

Sectioning
Vibratome

1 mm Thick
Sections

1 mm x 5 mm diameter
Sample

CLARITY Tissue Clearing



Biomolecule

Lipid

Detergent

Detergent w/ Lipid

Hydrogel Matrix
The first step in the tissue processing workflow is to place the fixed mouse, rat, or human tissue sample in a solution of hydrogel monomers and cross-linkers.

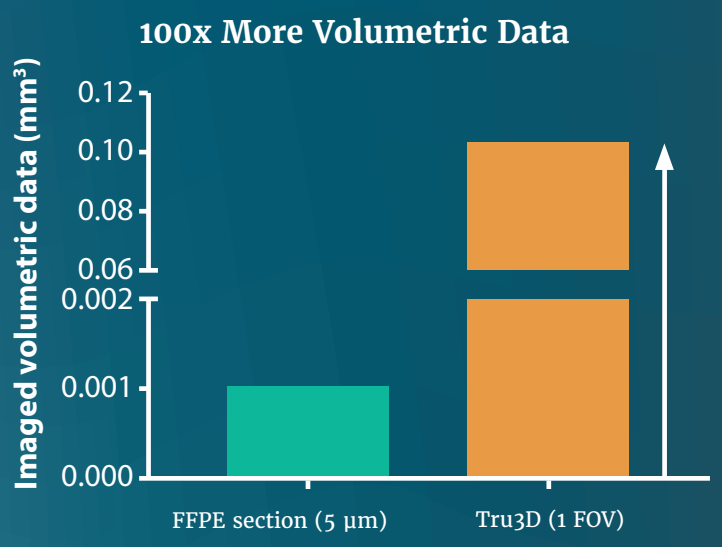
Functionalization
The monomers and cross-linkers diffuse into the tissue's cells and bind to biomolecules such as proteins and nucleic acids but not to light-scattering lipids.

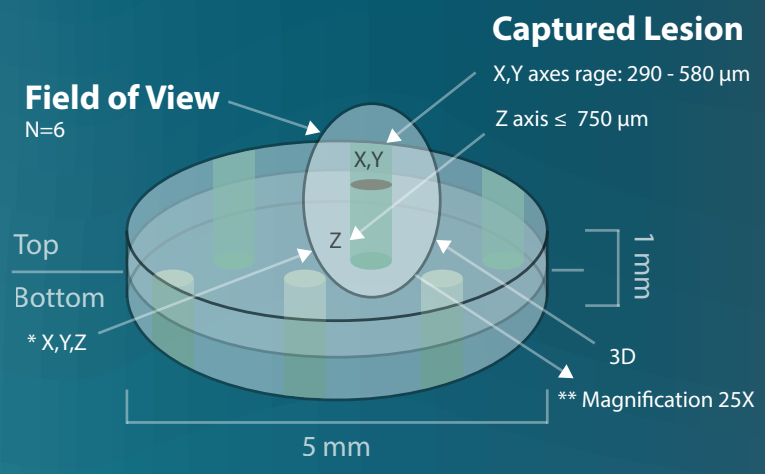
Polymerization
The hydrogel is thermally treated and the monomers polymerize into stable mesh that locks proteins / biomolecules in place.

Lipid Clearing
A detergent removes lipids and other unbound molecules from the tissue. The proteins, nucleic acids and other bound biomolecules remain embedded with the hydrogel mesh.

Immunostaining
If desired, antibody-based immunostaining or labeling for many nucleic acids (RNA/DNA) can be used in a multiplex panel to highlight specific structures in the clarified sample

Imaging
The tissue processing workflow moves from molecular labeling to imaging. The stained tissue is placed in a refractive index-matching mounting solution for imaging with a confocal or light sheet microscope or another imaging platform.





* Standard Resolution is dependent upon image resolution.
– improving resolution decreases the FOV
– better resolution equals smaller FOV
** Objective Magnification

ClearLIGHT BIOTECHNOLOGIES
(800) 251-8905
contact@clearlightbiotech.com