A Sample preparation

Tip
Old tissue

Base
Young tissue

Whole-mount

Kelp tissue covered with agarose layer

Whole-mount enabled imaging of a large surface area so that contiguous swaths of biofilm could be imaged

Methacrylate embedding

I 5 µm

Resin block

Kelp section

Kelp inner tissue

Biofilm observed on both surfaces of the kelp blade

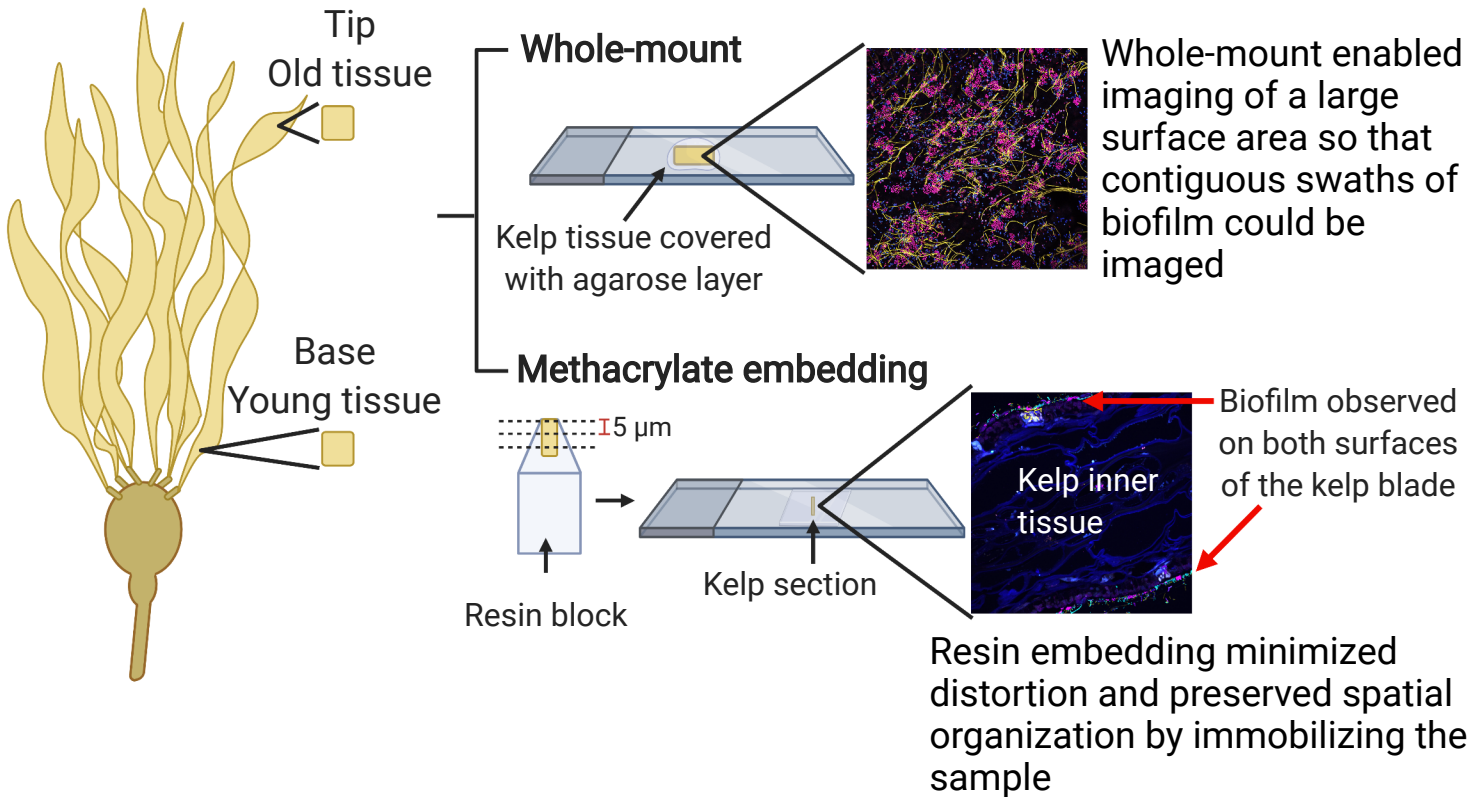Resin embedding minimized distortion and preserved spatial organization by immobilizing the sample

B Oblique viewing angle in tilted sample

Objective

Sample surface is tilted relative to the plane of imaging

Kelp tissue with agarose layer

Plane of imaging where the sample is in sharp focus