

3DKUBE™ *In Situ* Histology Preparation

Sample preparation and embedding for histological analysis is easy with 3DKUBE™ 3D Cell Culture Plasticware. *In situ* embedding provides more accurate histological analysis by locking the cells within the 3D culture chamber without the disruption that is caused by sample manipulation.

In Situ Embedding:

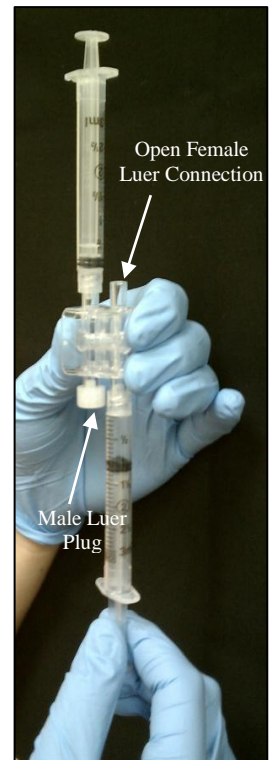
1. Remove the 3DKUBE from the perfusion flow circuit(s) and carefully remove any residual media from the cell culture chambers using a 3 mL syringe.
2. Conduct any necessary rinse by gently perfusing the 3D culture chambers.
3. Prepare fixation, dehydration, and/or embedding agent according to the manufacturer's guidelines.
4. Using up to a 3 mL syringe and positioning the 3DKUBE upright (see right), slowly inject 0.5-1.0 mL of prepared agent into one chamber taking care to prevent air bubble formation.
5. Cap the opposing end with a standard male luer plug when the entire chamber is filled (syringe remains attached).
6. Invert the 3DKUBE and repeat for the second opposing chamber (see right).
7. Repeat this process according to the histology agent manufacturer's guidelines.
8. Polymerize sample *in situ* according to manufacturer's guidelines using the described inverting technique.

Removing Sample from the 3DKUBE:

1. Remove syringes and male luer plugs from the 3DKUBE.
2. Separate the two chambers by twisting the 3DKUBE counter-clockwise.
3. Depending on the embedding agent, retrieval of histology samples from the 3DKUBE 3D culture chambers may require tooling and cutting of the surrounding polystyrene plasticware away from the central embedded cylinder.
4. Upon retrieval of the embedded histology cylinder, proceed with standard histology techniques involving further embedding, sectioning, slide mounting and staining.



Histology sample in polymerized glycol methacrylate (shown at right) was embedded *in situ* in the 3D culture chamber of a 3DKUBE.



In situ perfusion embedding of the 3DKUBE™ 3D culture chamber contents.