

# Bruker TruLive3D

## specifications and primary uses

### Bruker TruLive3D main specifications

- The TruLive3D has 4 imaging channels at 405nm, 488nm, 561nm, 640nm.
- The imaging objective is 25X 1.1NA water immersion. The magnification changer does not change the NA of the system.
- The system is corrected for chromatic aberrations for the visible wavelengths but does present a shift for the UV 405. This can be corrected with processing.
- The sample dishes are index matched to water so as long as the medium we use is index matched to water we can image with full resolution.

### Bruker TruLive3D primary uses

- The instrument is primarily designed to image organoids or spheroids up to less than a millimeter in size.
- The instrument can be used for live cells, live small embryos, zebra fishes
- The instrument is NOT designed to image cleared tissues for the following reasons:
  - The clearing process uses chemicals that can attack the glue of the imaging objective
  - The clearing process matches the index of refraction of the tissue to that of the clearing medium. This results in indexes of refraction way beyond the index of refraction of water.
  - To have a tissue matched to the index of refraction of water, one could use expansion microscopy in some cases but the end results would likely be too large to image at once in the sample dishes.

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