The Asylum MFP-3D-BIO is mounted on an inverted optical microscope to enable simultaneous brightfield, widefield epi-fluorescence, or phase imaging. The extended Z-head allows tapping mode and contact imaging within a range of 40µm in Z and 90µm in X and Y. It also is capable of nanomechanical property mapping, bimodal dual-AC imaging, single-molecule force extension measurements, conductive AFM, and STM. An open-access sample area and a range of environmental chambers (BioHeater, Petri Dish Holder, Heater/Cooler, and Polymer Heater) ensure compatibility for nearly any kind of sample (material, chemical, or biological) in air, fluid, or inert atmosphere. Excellent high-temperature (+300 °C) time-lapse imaging in inert atmospheres with minimal drift is a key advantage.

The MPML purchases in bulk to maintain a small stock of common cantilevers with spring constants for various applications. Users may purchase cantilevers at cost.

Users are required to complete basic AFM training before training on the MFP3D.