BioMAX is the first operational Macromolecular Crystallography (MX) beamline at the MAX IV facility.[1] The design goal was to create a stable and reliable multipurpose beamline. The beamline optics consist of a double crystal Si(111) monochromator that provides an energy range between 5 and 25 keV and a pair of KB mirrors; the beam can be focused down to 20 x 5 μm2 FWHM at the sample position with a photon flux of about 5x10^12 photons/s at a ring current of 250 mA and an energy of 13 keV. Changes of energy and beam focus (up to 100 x 100 μm2) are automated. The experimental hutch is equipped with a MD3 microdiffractometer, an IRELEC Isara sample changers and a 16M Eiger detector. MXCuBE3 is used for user beamline control and data collection.[2]

A wide range of MX experimental techniques are available at the beamline, from standard oscillation data collection at cryo-temperatures, optimized SAD and MAD experiments, humidity-controlled room temperature data collection and Serial Crystallography experiments, both fixed target and injector based.[3] A fragment-based drug discovery facility (FragMAX) is also based a BioMAX.[4] Conventional experiments at cryotemperatures can be done fully remotely.

References