



Case Study

Emerald Biosystems: Protein Crystallization

Customized „Crystal Cards“

Emerald BioSystems is a leading provider of sophisticated laboratory automation, software tools, and consumable products for gene to protein crystal structure research. Emerald BioSystems' unique product offerings work together to provide integrated solutions for biotechnology.

Grow Diffraction-Ready™ protein crystals with the Microcapillary Protein Crystallization System (MCPS™). Sparse matrix screening and optimization experiments can be carried out simultaneously. Crystals grow in ~10 nanoliter “plugs” that are prepared in microfluidic channels within plastic CrystalCards. Protein crystals can be extracted from the Peel-Apart™ CrystalCard™ and subjected to cryo-crystallographic investigation.

Quick facts:

- Crystals easily extracted from Peel-Apart CrystalCards
- CrystalCards compatible with in situ X-ray diffraction
- ~22µL protein sufficient for 96 condition gradients
- On-chip formulation of gradients for optimization

thinXXS Microtechnology AG has transferred the application of Emerald into a volume production (injection molding). thinXXS realized important features like e.g. peelable film for crystal extraction, hydrophobization of the channels as well as the customized platform.

