

Video Article

X-ray fibre diffraction from amyloid fibrils

Louise Serpell¹, Kyle Morris¹

¹

URL: <http://www.jove.com/video/2826>

DOI: [doi:10.3791/2826](https://doi.org/10.3791/2826)

Keywords: X-ray fibre diffraction, amyloid, cross- β , Clearer

Date Published: 6/15/2015

Citation: Serpell, L., Morris, K. X-ray fibre diffraction from amyloid fibrils. *J. Vis. Exp.* (), e2826, doi:10.3791/2826 (2015).

Abstract

The structure of amyloid fibrils may be investigated by preparing aligned, bundles of fibrils from which X-ray diffraction data may be collected. This approach gives information arising from the repetitive arrangement of the proteinaceous subunits that polymerise to form the fibrils. The resulting diffraction patterns from amyloid fibrils share a cross- pattern. However, fibrils formed under different conditions and from different precursor proteins or peptides can give additional information in their patterns that can be used to investigate the underlying architecture of the fibres. CLEARER was written to aid analysis of fibre diffraction data and allows accurate measurement of reflections, unit cell indexing and simulation of diffraction patterns from potential model structures. Here we describe the steps involved in this process.

Disclosures

No conflicts of interest declared.