MS16-1-5 Amyloid beta 42 fibrils: a small-angle X-ray scattering view of the growth kinetics and its variability #MS16-1-5

S. Da Vela [1], T. Cheremnykh [1], M. Shafiq [2], M. Glatzel [2], D. Svergun [1]
[1]EMBL Hamburg Unit - Hamburg (Germany), [2]Universitätsklinikum Hamburg-Eppendorf - Hamburg (Germany)

Abstract
Aggregation of the peptide amyloid beta 42 (Aβ42) into fibrils is a key event in the pathogenesis of Alzheimer's disease. During this aggregation process, smaller neurotoxic Aβ42 oligomers are formed, which, despite their relevant role in neurodegeneration, are insufficiently characterized [1]. We employed synchrotron time-resolved Small-angle X-ray Scattering (TR-SAXS) to monitor the kinetics of Aβ42 aggregation in solution including structural information. Multiple TR-SAXS datasets spanning several hours of the aggregation process were collected and could be adequately described in terms of a minimal set of coarse-grained structures, revealing the overall features of the oligomers. Moreover, the inherent variability of the process was addressed, and the Aβ42 fibrils present at late stages were compared with those present in the literature [2,3,4].

References
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Amyloid growth kinetics monitored by SAXS