

Einladung zum Vortrag von

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**„Cyclic peptides hide within seed storage albumin
precursors in sunflowers”**

Seed storage albumins are degraded during germination to provide nutrients for the developing seedling. An unusual seed storage albumin precursor found in the common sunflower *Helianthus annuus* contains a 14-residue sequence insert with a single disulfide bond that during the proteolytic processing is cleaved out and head-to-tail cyclized. The resultant cyclic peptide is a sub-nanomolar trypsin inhibitor known as Sunflower Trypsin Inhibitor-1, SFTI-1. Screening ventures using both genetic and LC-MS strategies have now shown that SFTI-1 is only one member of a large family of related cyclic peptides produced from albumin precursors in different plants of the Asteraceae family. We have used solution NMR spectroscopy to study these peptides and their albumin precursors. We show that prior to processing the peptide and albumin represent independent protein domains. After processing the peptides, which are diverse in sequence, apart from a conserved disulfide bond, adopt a range of different folds with different physiochemical characteristics. Sequences that are closely related to SFTI-1 are also capable of inhibiting trypsin, while the functional significance of the more distantly related peptides is yet to be understood.

Montag, 12. September 2016, 16:00 Uhr
Hörsaal 3 der Fakultät für Chemie
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