



Australian
National
University

PUBLIC LECTURE STRUCTURE

The biosynthesis of cyclic proteins

Wednesday 10 July 2013 1 – 2pm

Dr Brendon Conlan Plant Sciences, RSB

Slatyer seminar room R.N. Robertson Building (Bldg. 46), Linnaeus Way, ANU



Cyclic proteins result from joining the N- and C-termini of proteins to form a ring structure with no beginning and no end. Gene encoded cyclic proteins exist in both prokaryotic and eukaryotic species and can be found in bacteria, cyanobacteria, mammals, plants, and fungi.

The function of these proteins ranges from proteinase inhibitors to antiviral, bactericidal, nematocidal and insecticidal agents. Cyclization occurs in only a small percentage of proteins, but gives the resultant cyclic proteins exceptional stability and is often necessary for subsequent function. Cyclic proteins are cleaved from larger precursor proteins by proteases which in the process of cleaving the precursor ligate the ends to form a continuous peptide backbone.

My studies have focused on the biosynthesis of cyclic peptides in plants. Plants contain three different families of cyclic proteins, of which cyclotides are the largest class. Several hundred different cyclotides have now been discovered in plants. Cyclotides contain 28-37 amino acids and act as host defense molecules to protect plants; they are promising candidates as insecticidal and nematocidal agents in agriculture.

Presented by

ANU College of
Medicine, Biology
& Environment

Contact details

E claire.anderson@anu.edu.au T 02 612 56966

This lecture is free and open to the public

Plant Science Seminar Series information:
biology.anu.edu.au/News/events-ps.php

CRICOS# 00120C