

Contribution ID: 217

Type: Talk

Structures of a DYW domain shed first light on a unique plant RNA editing regulation principle

Monday, 14 March 2022 15:10 (20 minutes)

The DYW domain, an enzyme for plant RNA editing: Pentatricopeptide repeat (PPR) proteins with a Cterminal DYW domain are responsible for C to U RNA editing in plants. We show that the DYW domain harbors the cytidine deaminase activity by functional data in vitro and structural similarity to distinctly related known cytidine deaminases. A DYW-specific domain regulates the active site sterically via a large-scale conformational change and mechanistically via the Zn-coordination geometry.

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Session Classification: Biocrystallography: Enzymes