Geminiviral protein Rep interferes in PCNA sumoylation

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Rep is a multifunctional protein essential for geminivirus replication that interferes with the sumoylation of a key protein in the DNA replication, PCNA (Proliferating Cell Nuclear Antigen). It is known that Rep is capable of interacting with a plethora of plant proteins, including PCNA. Despite the biological significance remains unknown, it's thought that this interaction should play a key role for generating new copies of the virus genome. Therefore, in order to characterize this interaction, we study which lysines are sumoylated in tomato PCNA (SlPCNA). Considering conservation, location and presence of sumoylation domain criteria, we have identified some candidate lysines and studied how its mutation affects this protein sumoylation in *Escherichia coli* assays. Finally, we plan to confirm and characterize the Rep interference on SlPCNA sumoylation and determine if this interference occurs *in planta.*