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SUMOylation: A link to future therapeutics

Faheem Ahmed Khan
Huazhong Agricultural University, China

This lecture will focus on SUMOylation, much of a similar process like ubiquitination that catches attention across different research groups as a potential therapeutic target to fight various infectious and cancerous diseases. This idea takes its strength from recent reports which unearth the molecular mechanisms of SUMOylation and its involvement in important diseases distributed across various kingdoms. At the beginning SUMOylation was considered a process affected only by viral diseases but subsequent reports enlighten its role in diseases caused by bacteria as well. This enhances the SUMOylation canvas and demanded more in-depth study of the process. The present discussion will be an attempt to elucidate the regulatory mechanism of genes when the natural SUMOylation pathway is disturbed, the cross-talk among SUMOylation and other post translational modifications, the role of miRNAs in controlling the function of transcripts, loading of RNA species into exosomes and the possible SUMOylation related therapeutic targets. Furthermore, SUMOylation and miRNAs as a combined therapeutic target and SUMOylation and anti-cancer drugs will be explored in light of present researches.

Biography

Faheem Ahmed Khan is a Doctoral student in Huazhong Agricultural University, Wuhan and has produced publications titled "Recent developments in therapeutic protein expression technologies in plants", "SUMOylation: A link to future therapeutics", and DeSUMOylation: An important therapeutic target and protein regulatory event". He is presently involved in studies regarding controlling infectious and cancerous diseases using CRISPR-Cas systems. He is interested in making use of multipronged approach by combining different technologies to use it collectively to fight the disease menace. Khan has a strong belief that present advances in genome editing technologies carries the secret to develop personalized therapies against any infectious or cancerous diseases by keeping the post-translational mechanisms in homeostasis.

faheemgenetics@gmail.com

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