

IRN-FJFPB

Webinar « Genome dynamics and epigenetics »

June 28th, 2021

Dr Angélique Déléris, CR CNRS, Epigenetic regulation of transposable elements in Arabidopsis, Genome Biology (I2BC)

angelique.deleris@i2bc.paris-saclay.fr

<https://www.i2bc.paris-saclay.fr/spip.php?rubrique224&lang=en>

Investigating a non-canonical role of H3K27me3 marks at transposable elements

In plants and mammals, DNA methylation and histone H3 lysine 27 trimethylation (H3K27me3), which is deposited by the polycomb repressive complex 2, are considered as two specialized systems for the epigenetic silencing of transposable element (TE) and genes, respectively. Nevertheless, many TE sequences acquire H3K27me3 when DNA methylation is impaired, like in *met1* or *ddm1* Arabidopsis mutants. We have also shown that this gain of H3K27me3 observed at hundreds of TEs in the *ddm1* mutant essentially depends on CURLY LEAF (CLF), one of two partially redundant H3K27 methyltransferases active in vegetative tissues. I will present the results of the analyses we performed in the double *ddm1-clf* mutant to study a potential role of H3K27me3 in silencing TEs in the absence of DNA methylation. I will further place these results in the context of what is known about the targeting of H3K27me3 to TEs in other organisms.



Université Claude Bernard Lyon 1

