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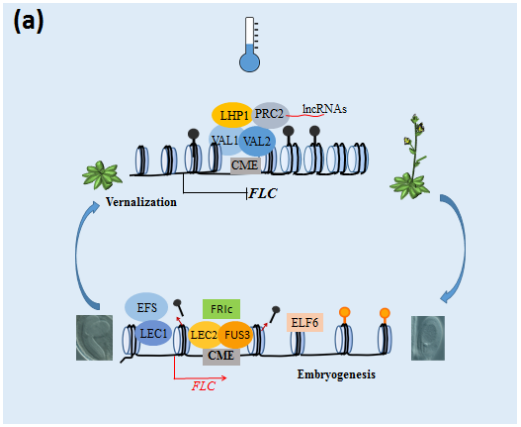
Transcriptional memory and response to adverse temperatures in plants

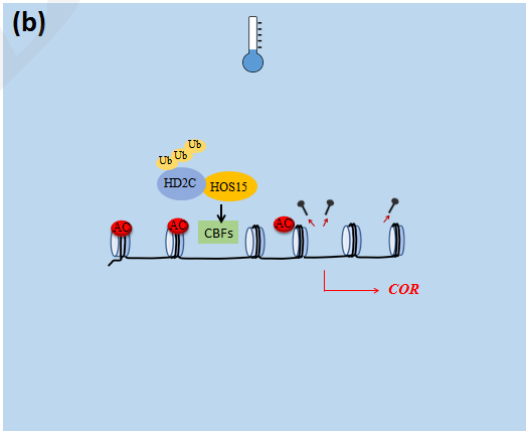
Key words: Transcriptional memory, Temperature stress, Vernalization, Cold acclimation, Thermomorphogenesis, Heat stress

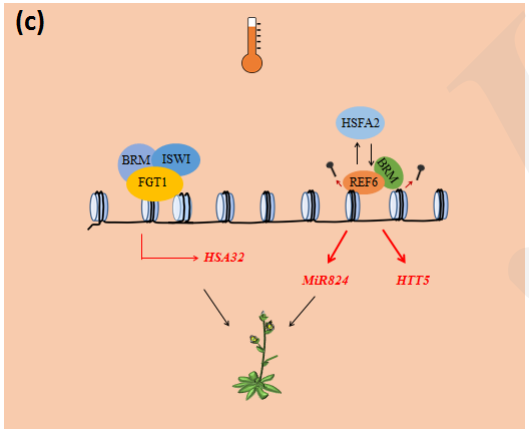
Research Summary

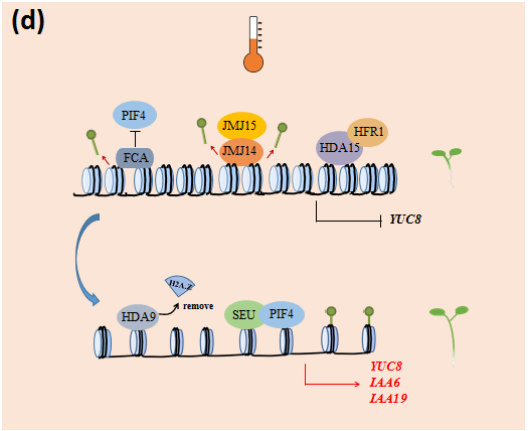
This review summarize recent advances in dissecting the mechanisms of plant transcriptional memory in response to adverse temperatures:



- **Vernalization**
- **Cold acclimation**
- **Heat stress**
- **Thermomorphogenesis**







Innovation points

● **Introduction** **the negative impacts caused by adverse temperatures in plants and the detailed concept of transcriptional memory.**

● **Summary** **of the recent research progress in understanding transcriptional memory under adverse temperatures, mainly in the model plant *Arabidopsis*.**

● **Emphasis** **of the epigenetic memory and transcriptional reprogramming of *FLC* during plant adapt to vernalization.**

● **A comprehensive model** **was presented to summarize the involving genes and regulating mechanisms of transcriptional memory under adverse temperatures.**

Figure 4