

## DIFFERENTIAL EXPRESSION OF Mo- AND Fe-NITROGENASES IN THE PLANT GROWTH PROMOTING ENDOPHYTE *Kosakonia radicincitans* UYSO10

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The strain *Kosakonia radicincitans* UYSO10 harbors two functional nitrogenases: the Mo-nitrogenase and the Fe-nitrogenase, both of which contribute to sugarcane growth promotion upon inoculation (Taulé et al, 2019). However, the regulatory mechanisms that determine their expression remain poorly understood. This study aimed to characterize the expression patterns of each nitrogenase in the strain UYSO10.

To achieve this, three approaches were employed: the characterization of *nifH* and *anfH* promoter fusion with GFP encoding genes, transcriptomic analysis, and proteomic analysis during the UYSO10-sugarcane interaction. Overall, the results showed preferential expression of the Mo-nitrogenase, while the Fe-nitrogenase was induced under *in vitro* conditions that mimic the endophytic environment. These findings suggest a potential role of the Fe-nitrogenase during plant colonization, highlighting the value of *K. radicincitans* UYSO10 as a model system for studying plant-endophyte interactions and the ecological significance of the alternative nitrogenases

### References

Taulé, Luizzi, Beracochea, Mareque, Platero and Battistoni (2019). Ann Microbiol **69**, 741–750.

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