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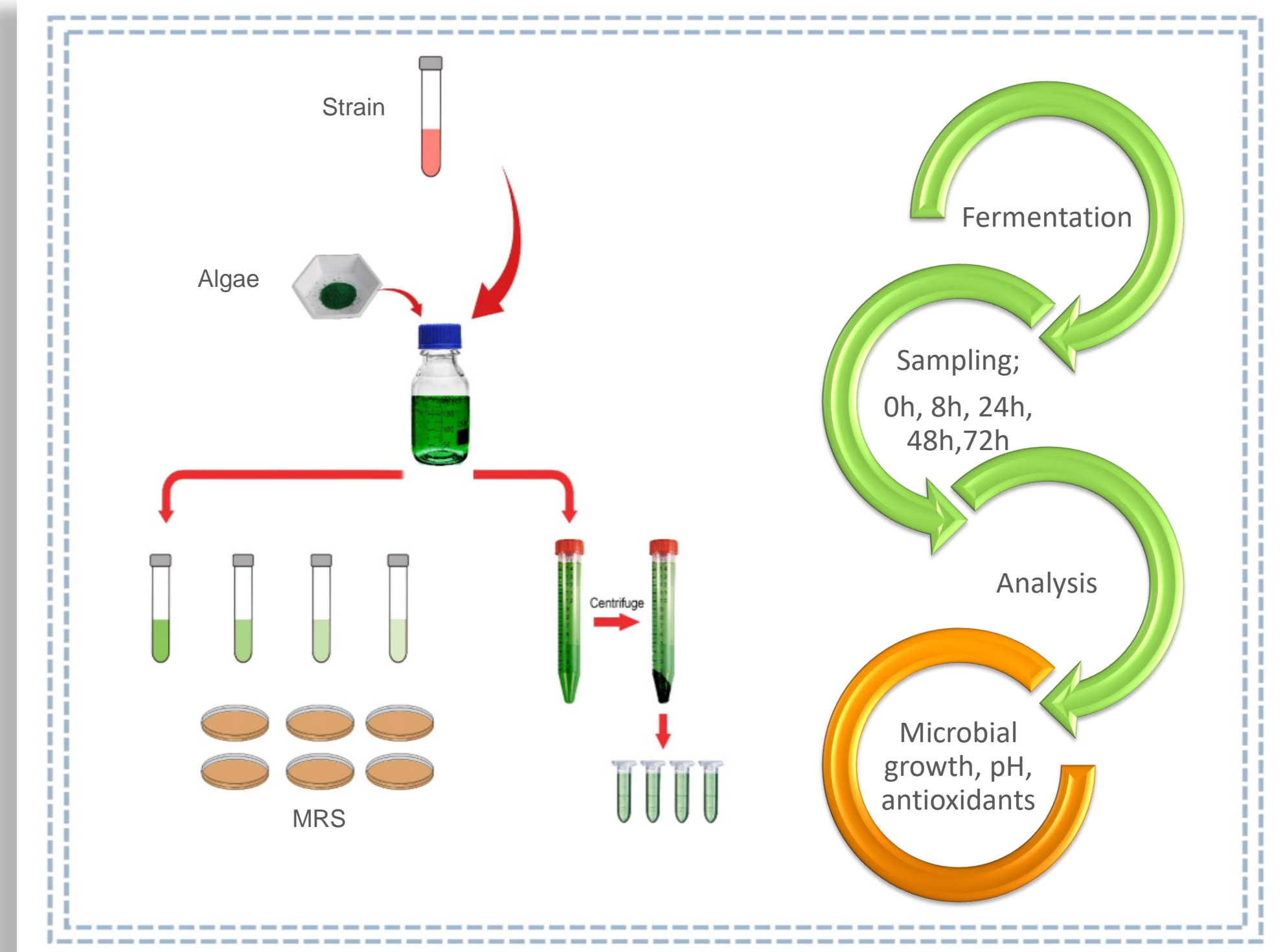
Introduction 01

- ❖ Besides being a potential substrate for biofuels, microalgae are excellent sources of protein and bioactive substances which can be used for nutraceutical, pharmaceutical and cosmetic applications [1].
- ❖ Direct addition of microalgae to formulations could be limited due to poor flavor characteristics [2]. Fermentation can be a good approach for improved flavor and bioactivity [3].
- ❖ Fermentation enhances the nutritional value by enabling the release of bioactive substances or biotransformation of substrate into added value products.
- ❖ This study aimed to evaluate *Chlorella Vulgaris* as a potential substrate for fermentation by lactic acid bacteria (LAB) and other fermenting microorganisms to enhance bioactivity.

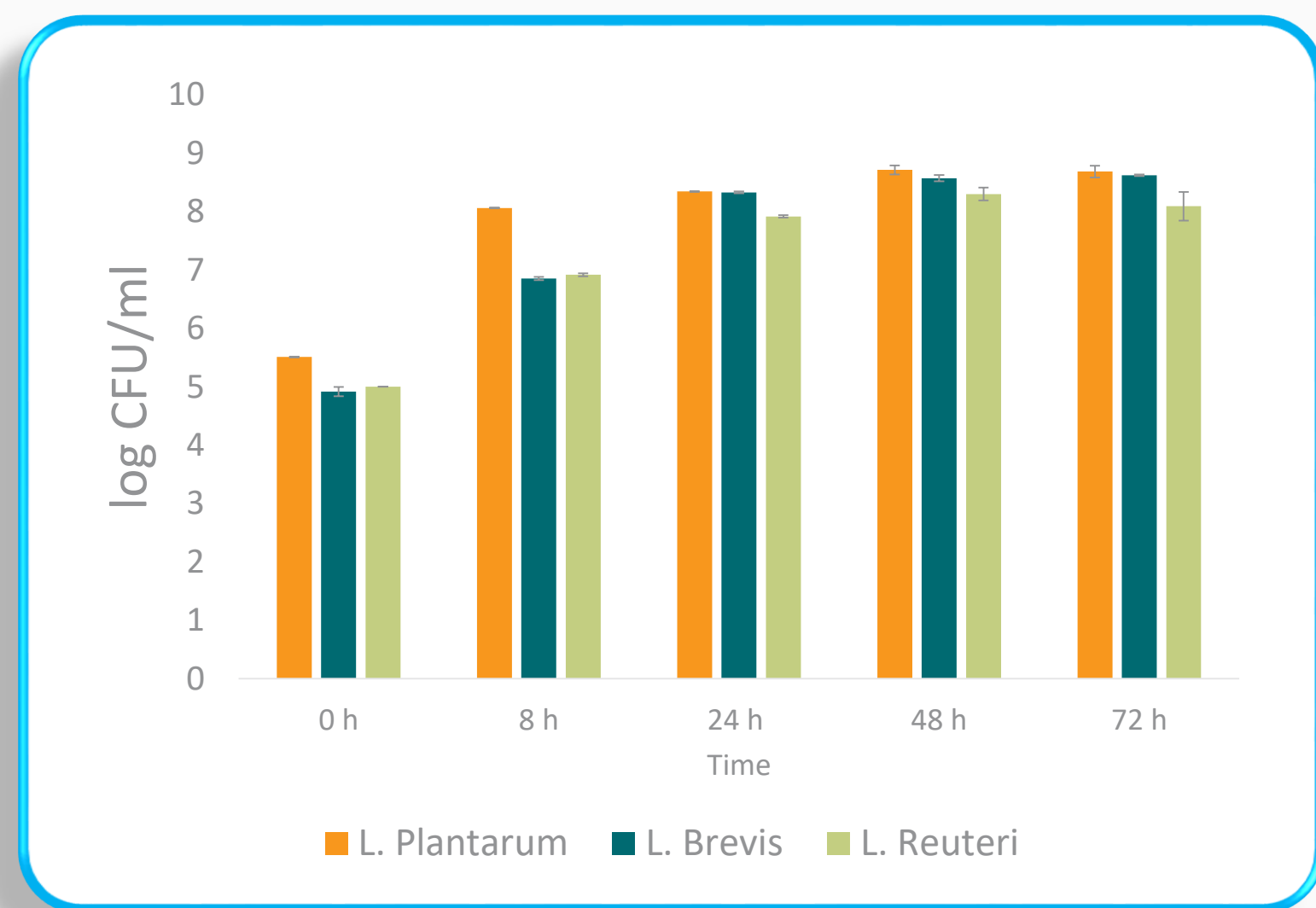


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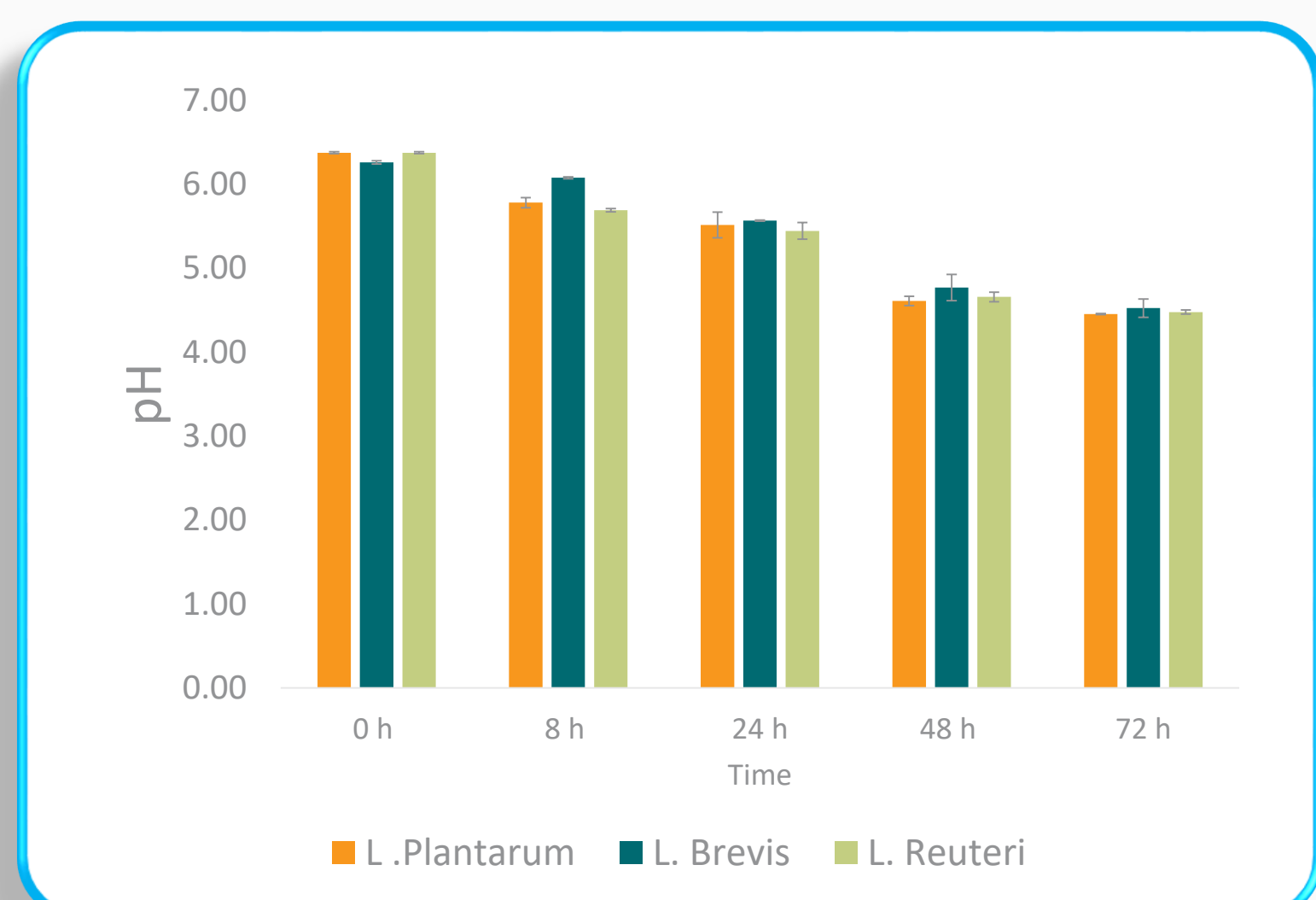
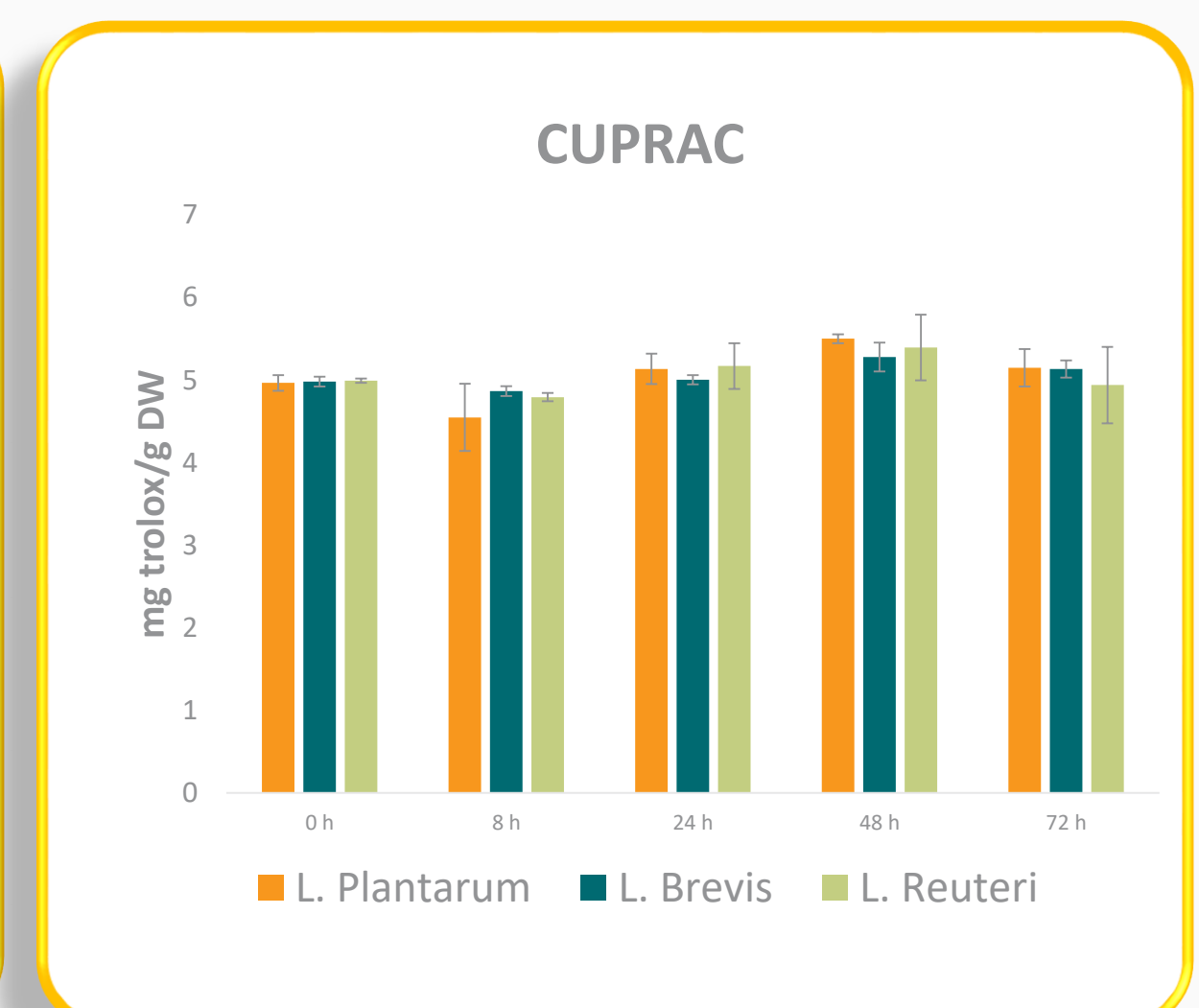
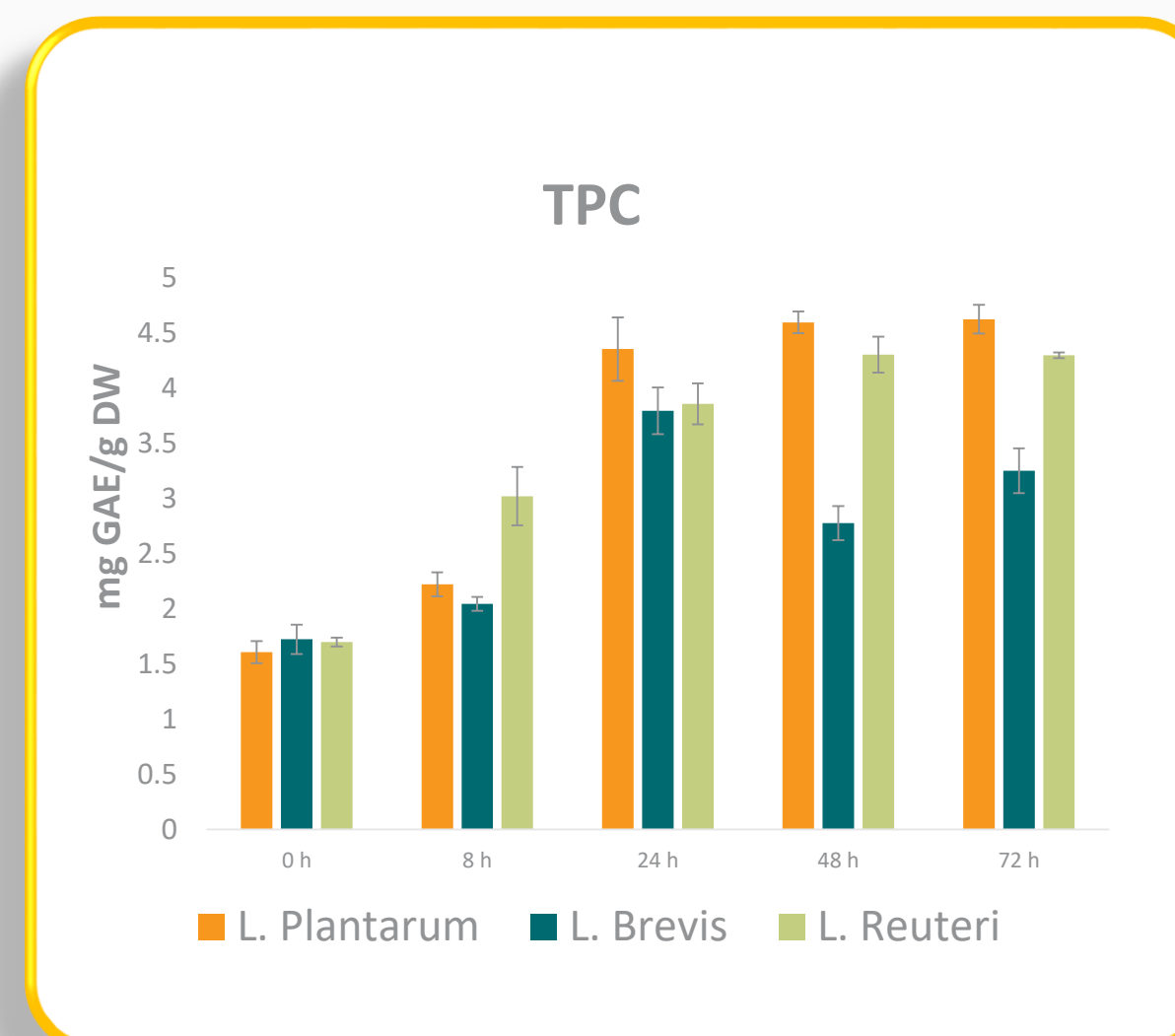
Materials and Methods



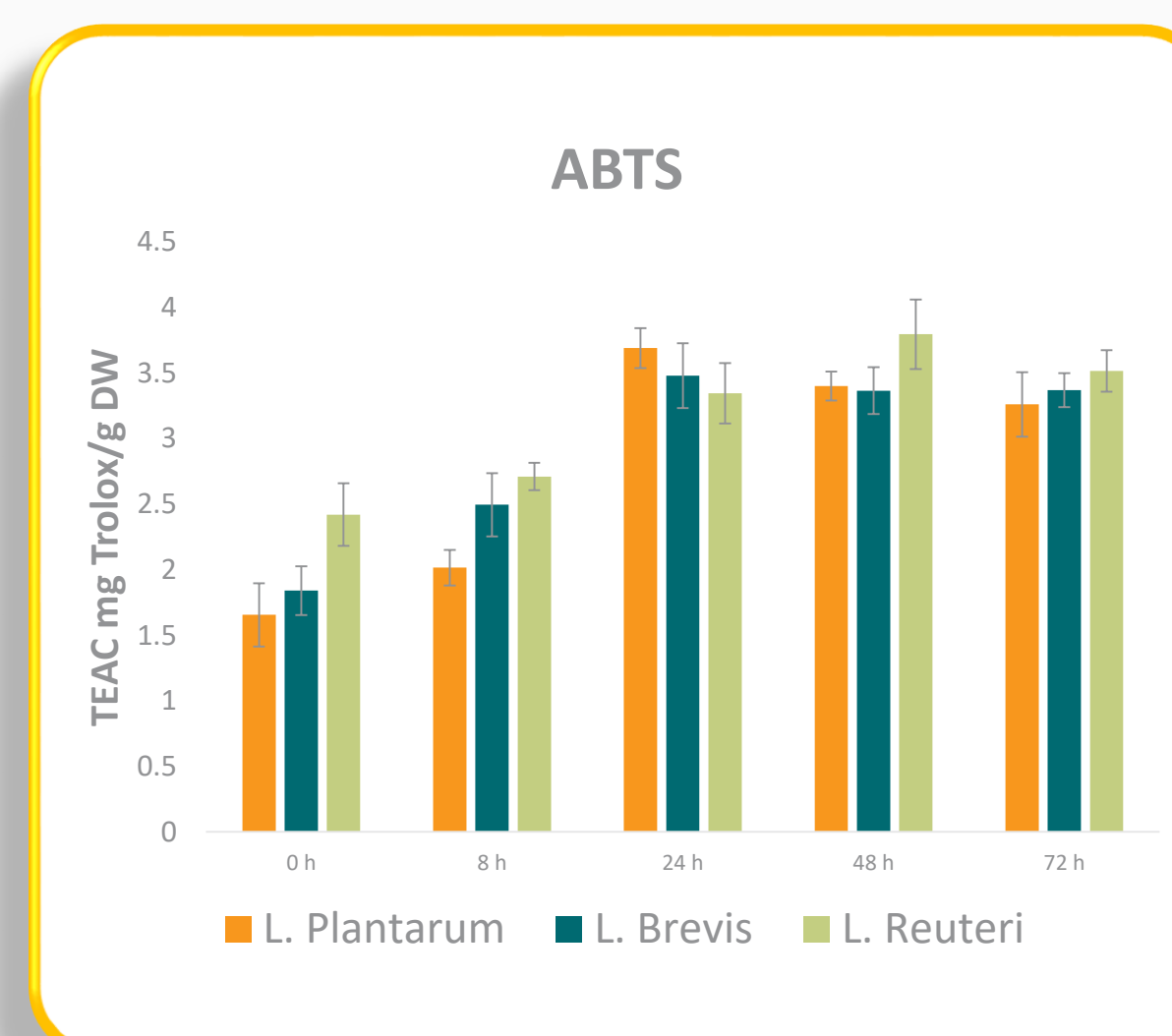
Results 03



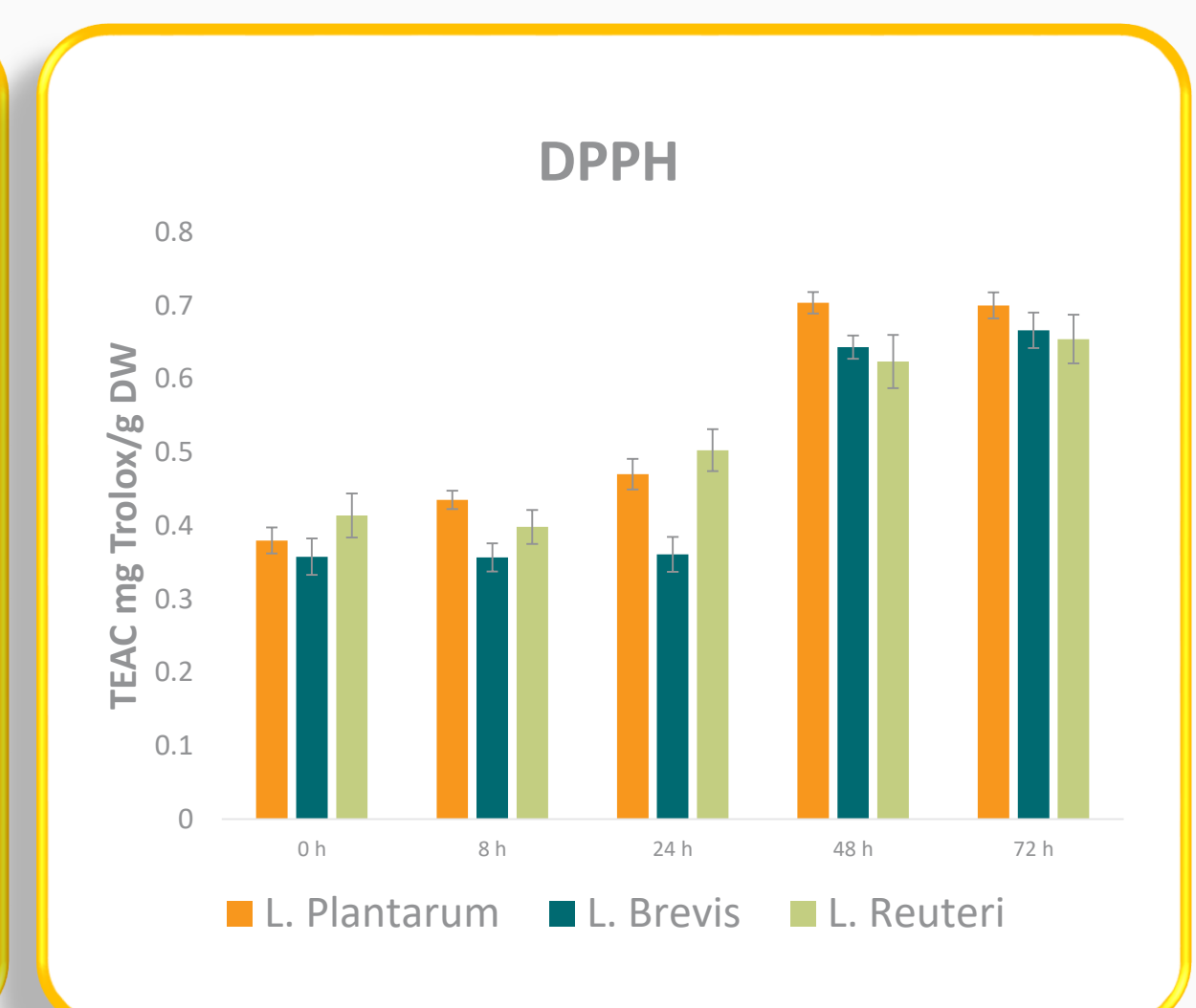
Microbial growth of inoculated strains



pH



In vitro antioxidant capacity



Conclusions 04

- ✓ The maximum growth (8.71 logs CFU/ml) was observed with *L. plantarum*, while strains showed a similar acidification rate, with the lowest pH value (~4.5) after 72 hours of fermentation.
- ✓ Observed growth demonstrates that *Chlorella Vulgaris* can be used as a unique source of fermentation without additional carbon source.
- ✓ *In vitro* antioxidant capacity changes at different time points were monitored with the total phenolic content, DPPH, ABTS, and CUPRAC assays during fermentation and increase was observed in most of the samples.
- ✓ This study reveals the feasibility of *Chlorella Vulgaris* and LAB for producing fermented algal formulations towards various applications

References 05

1. Pérez-Alva, A., (2022)., *Algal Research*, 64, 102684.
1. Isleten-Hosoglu, M. (2018). *Food Chemistry*, 240, 1210–1218.
2. Bao, J., Zhang, X., Zheng, J., Ren, D., & Lu, J. (2018).. *Food Chemistry*, 264, 64–72..

More info?

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