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► **To cite this version:**

Sylvie Miquel, Marjolaine Vareille-Delarbre, Sophie Garcin, Laurence Nakusi, Damien Balestrino, et al.. Distal Immunomodulatory effects of *Lactobacillus plantarum* on inflammatory response induced by *Klebsiella pneumoniae*. *Microbes*, Sep 2019, Paris, France. hal-04938596

HAL Id: hal-04938596

<https://hal.science/hal-04938596v1>

Submitted on 10 Feb 2025

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Immunomodulatory effects of *Lactobacillus plantarum* on inflammatory response induced by *Klebsiella pneumoniae*

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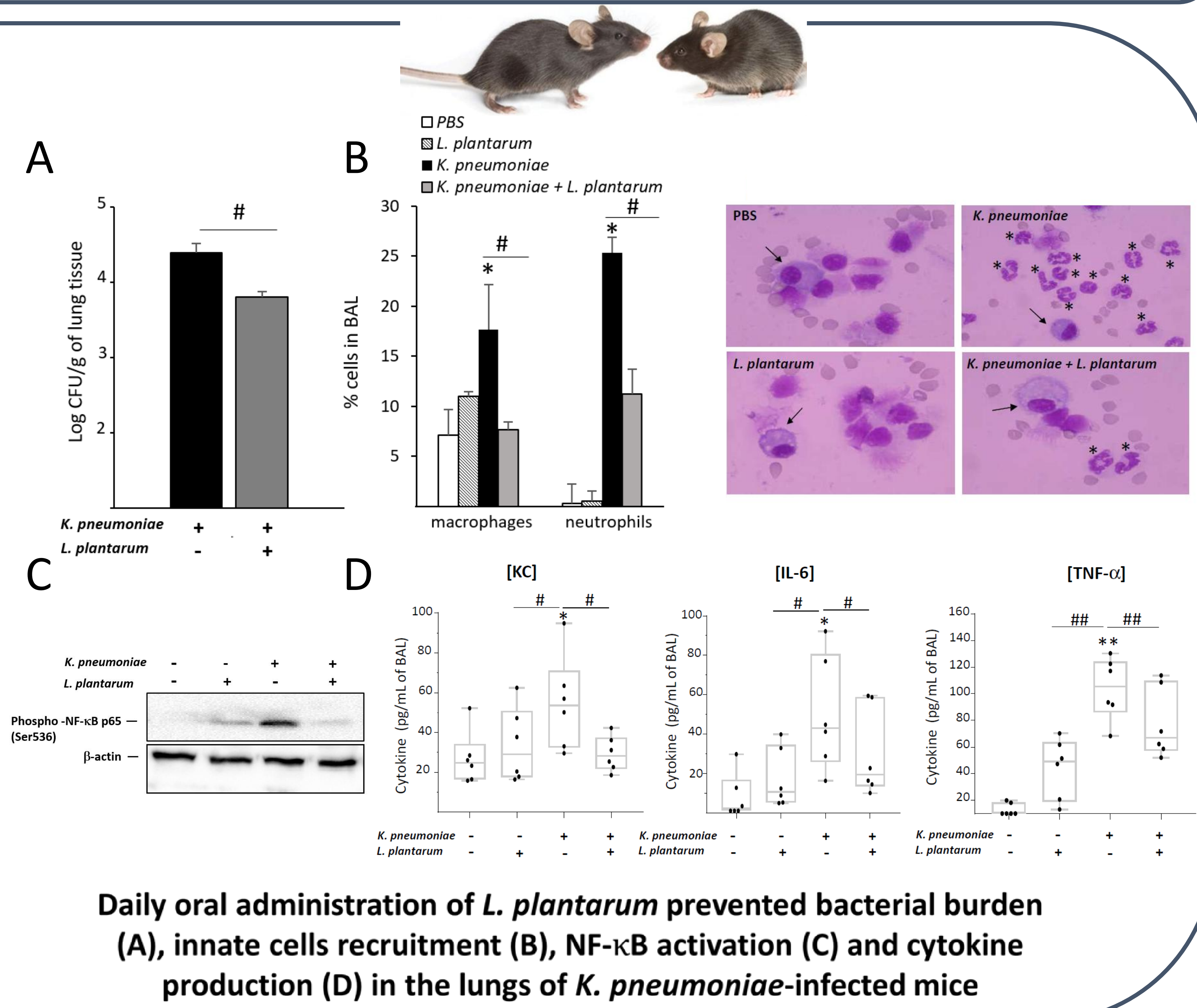
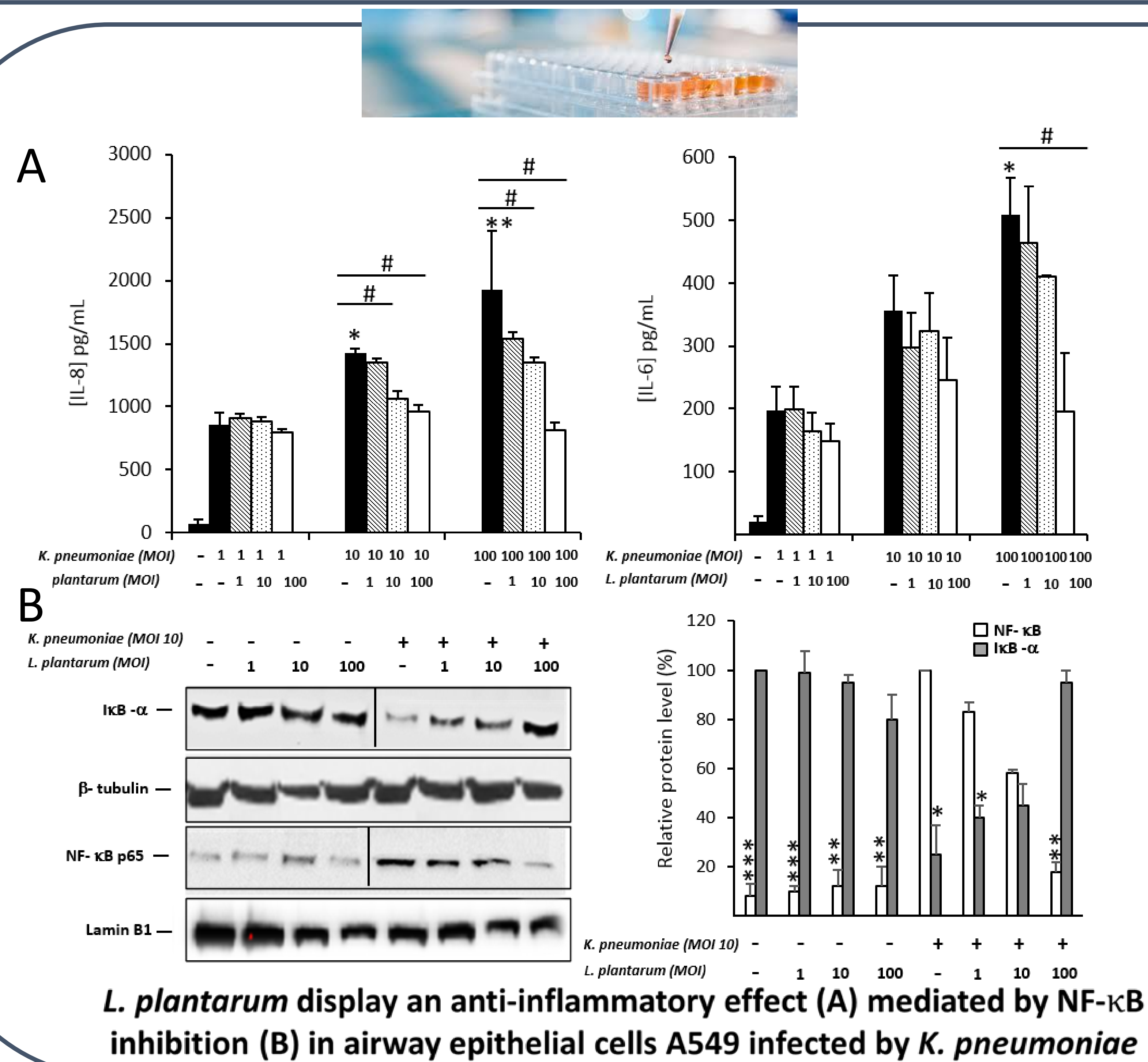
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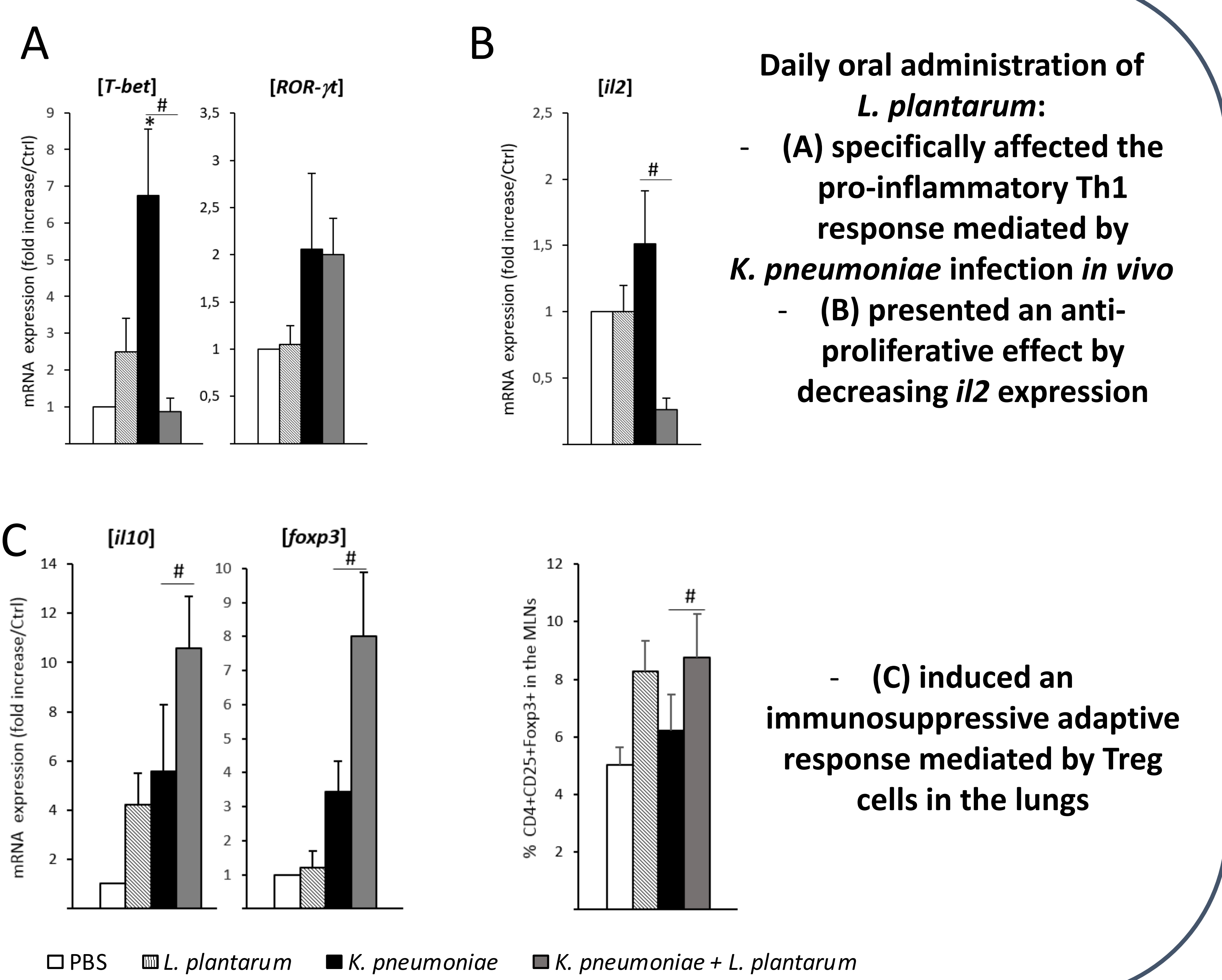
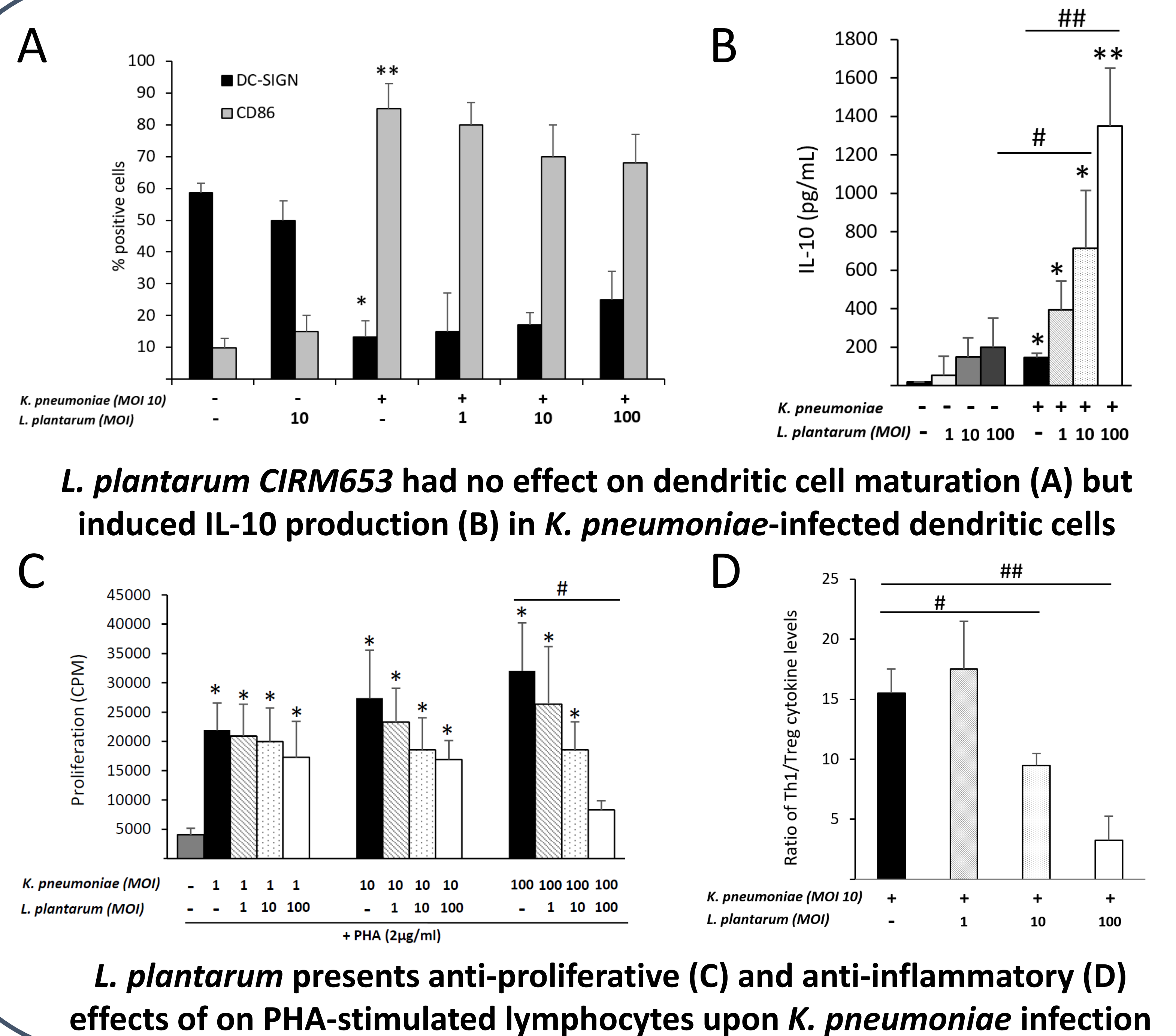
Background

Some respiratory infections have been associated with dysbiosis of the human intestinal microbiota. Crosstalk between intestinal microbiota and local immune cells could influence the immune response at distal mucosal sites and thus oral supplementation with exogenous beneficial bacteria could enhance respiratory defenses toward pathogens. In this study, we examined the effect of the beneficial strain *Lactobacillus plantarum* CIRM653 on the lung inflammatory response induced by *Klebsiella pneumoniae*.

Innate immunity



Adaptive immunity



Conclusion

The remote IL-10-mediated modulation of *K. pneumoniae* inflammatory response by *L. plantarum* CIRM653 supports the concept of immunomodulation by beneficial bacteria through the gut-lung axis.