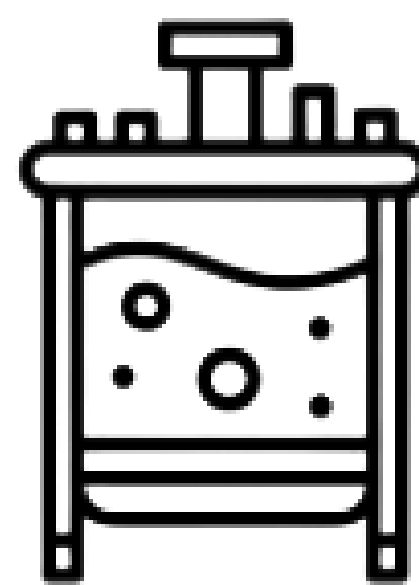


Lactic acid fermentation enhances antioxidant potential of chicory by-products for functional food applications



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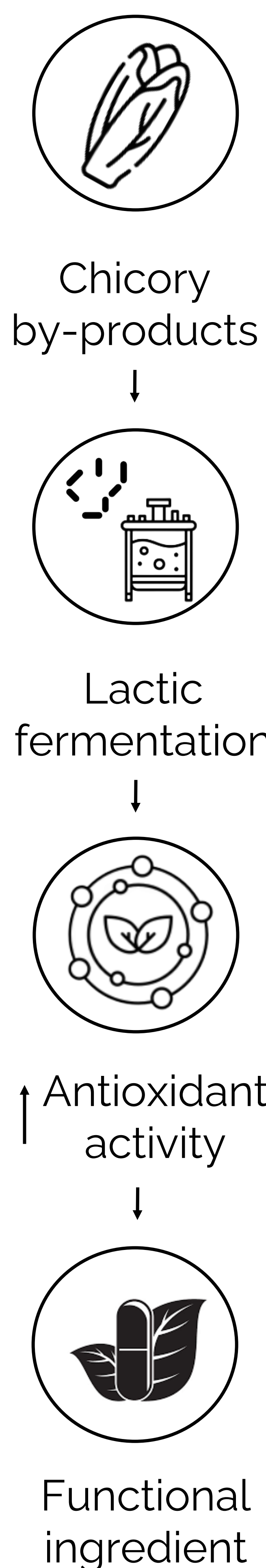
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Chicory by-products: production and valorization



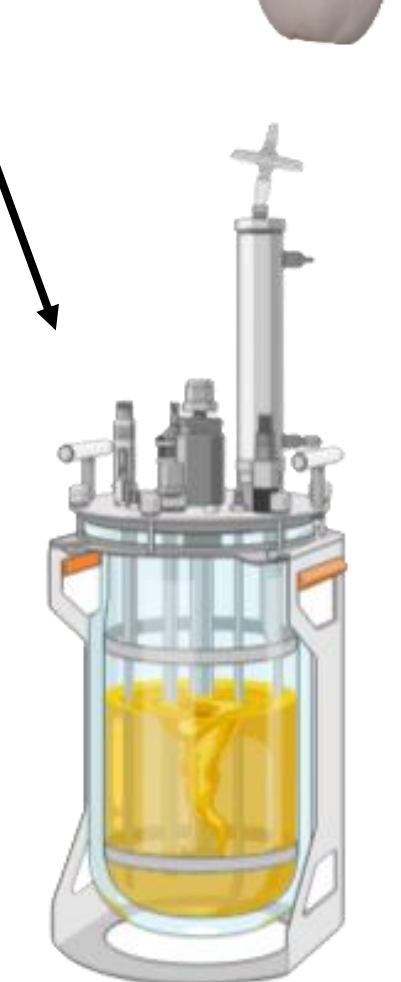
Objective



Chicory by-product selection

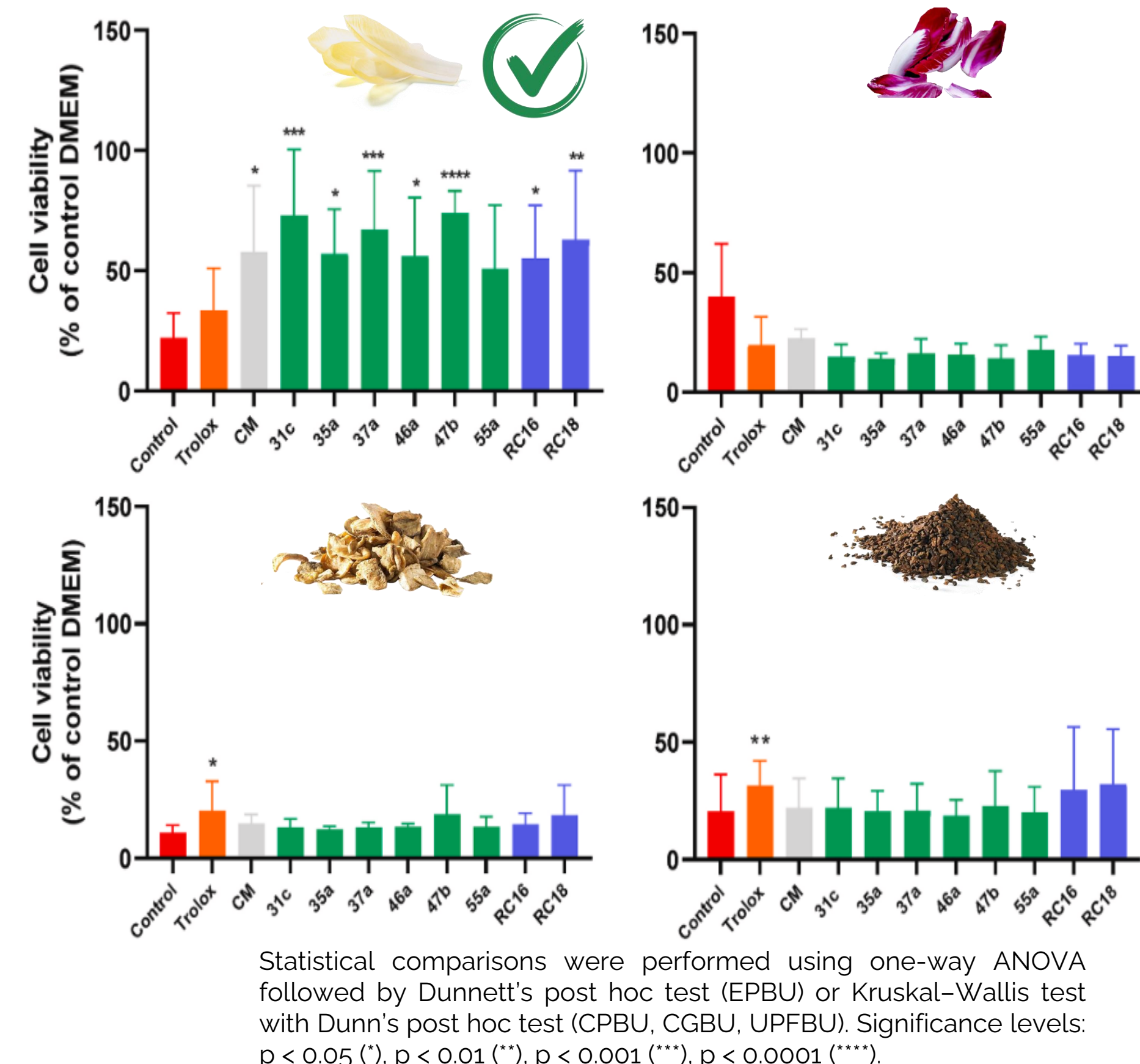
Six strains of *L. plantarum* from VF Bioscience collection

Two strains of *L. reuteri* from Belgian endive flora

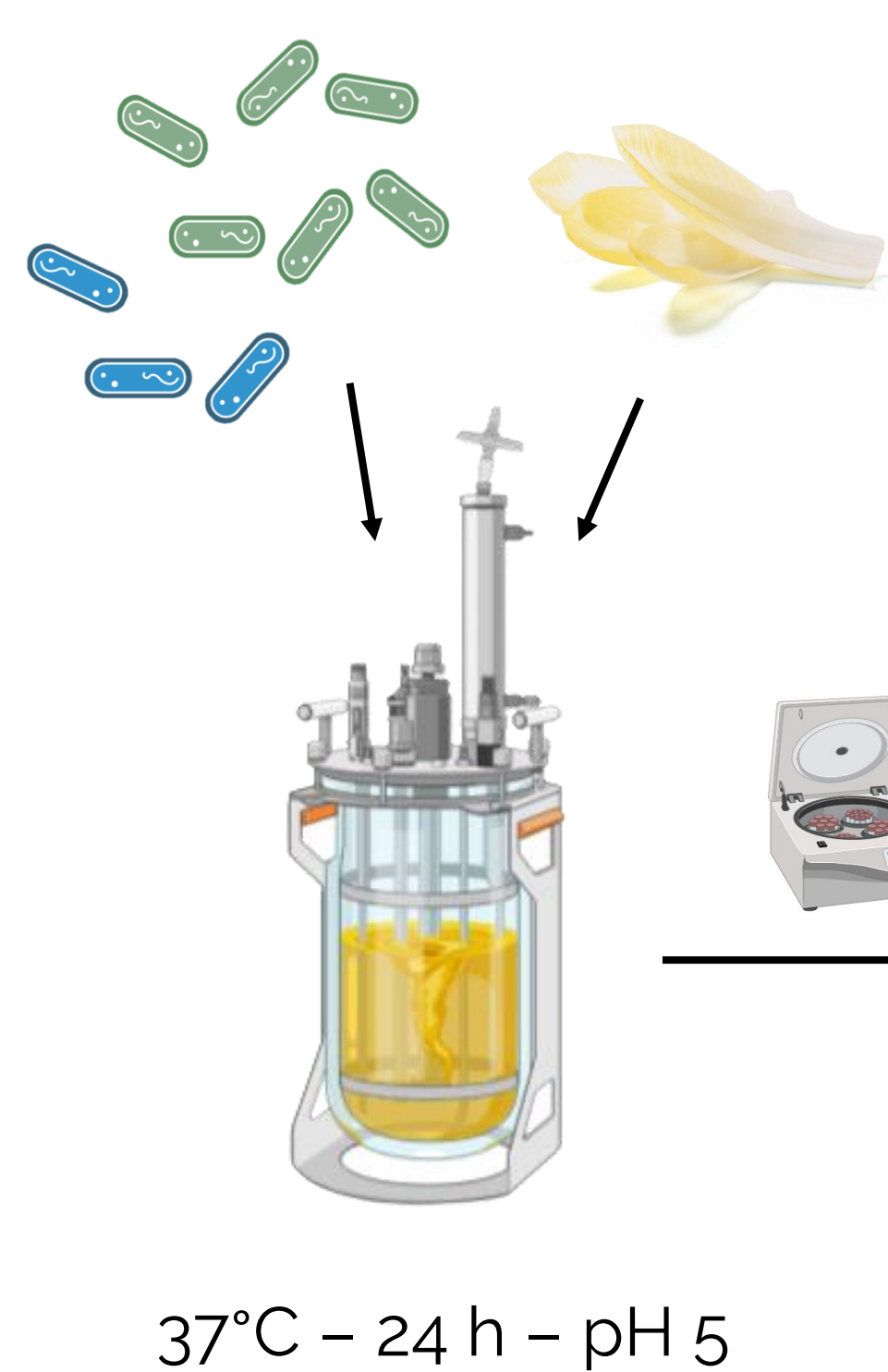


37°C – 72 h

Hepatoprotective activity in HepG2 cells

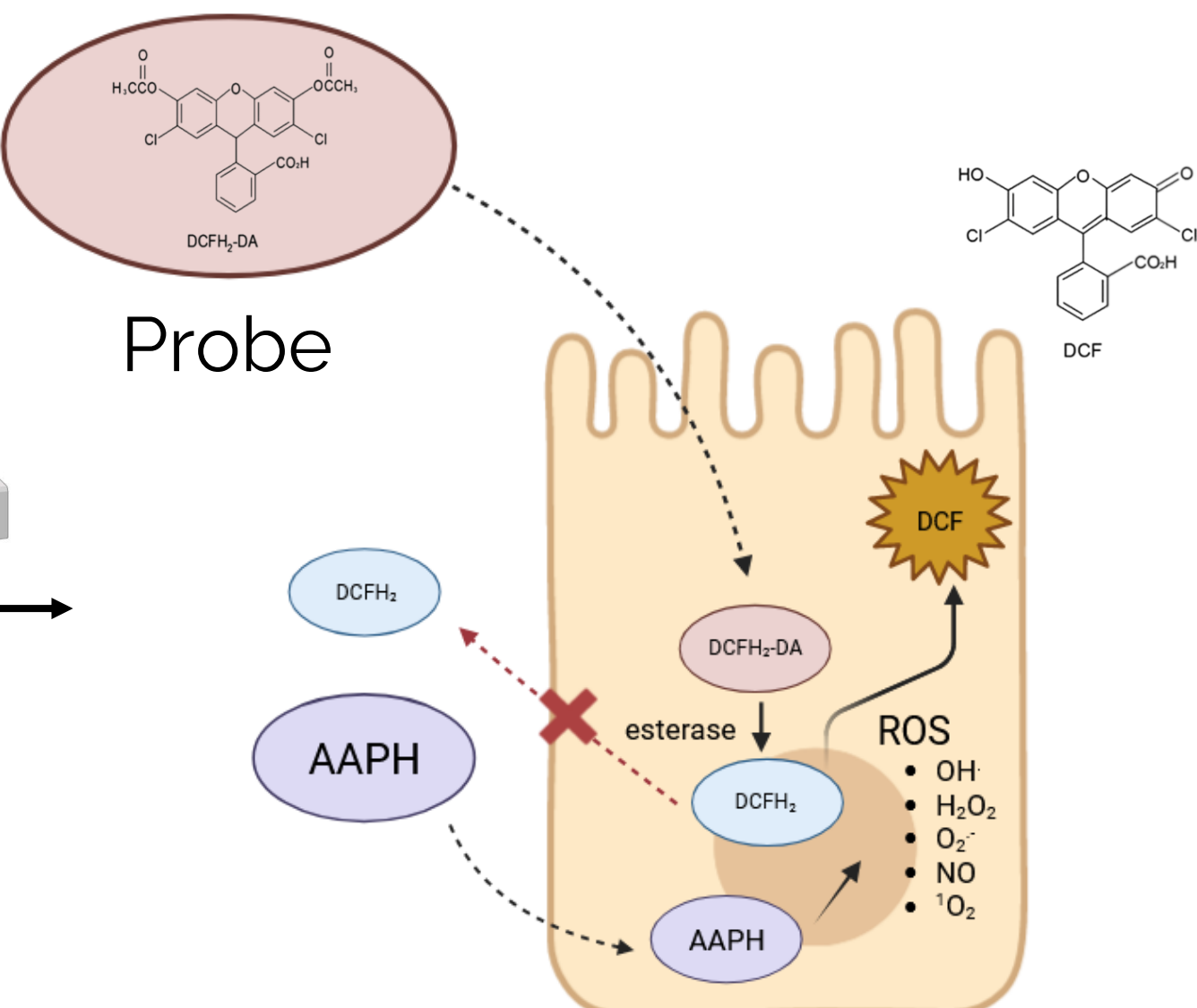


Effect of lactic fermentation on antioxidant activity



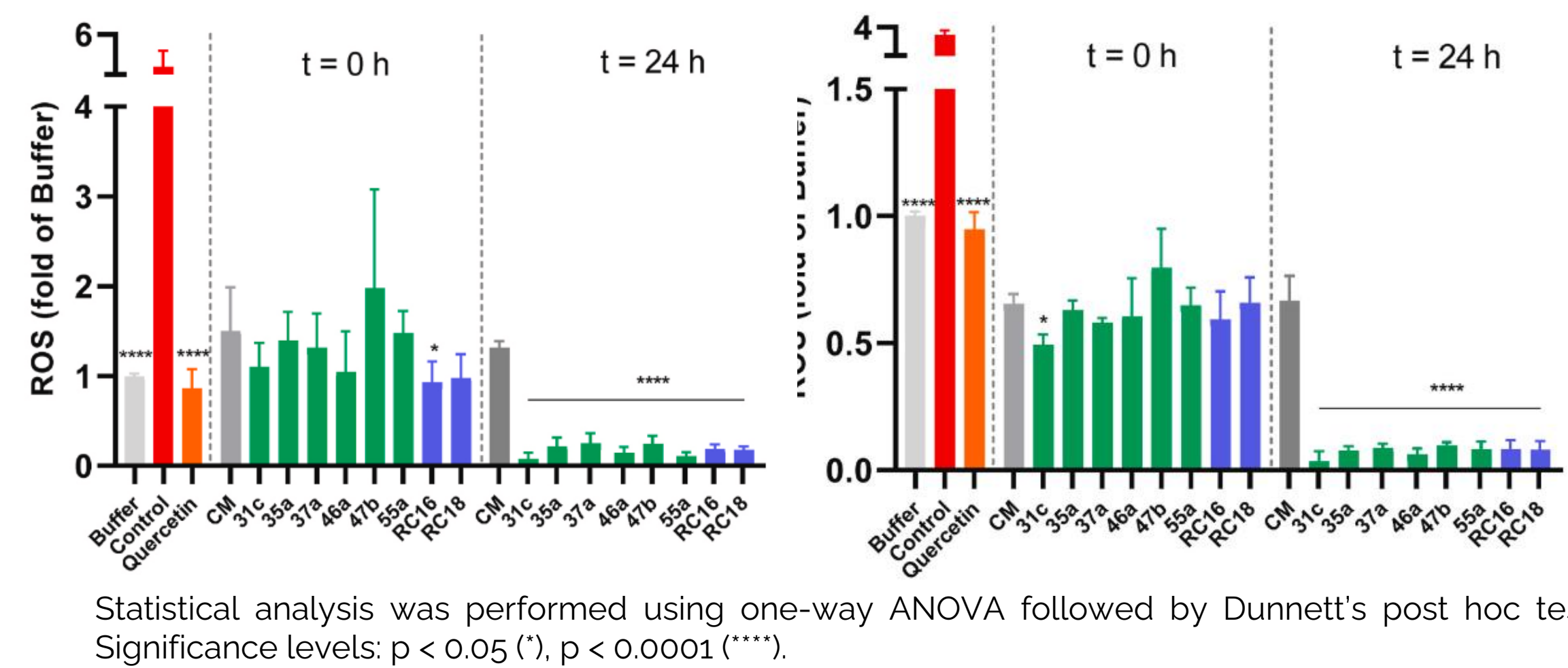
37°C – 24 h – pH 5

Intracellular ROS measurement



HepG2 cells

Caco-2 cells



Lactic fermentation by strain 31c significantly enhanced cellular ROS scavenging, achieving up to a 17-fold reduction

Conclusions and perspectives



Endive peelings were identified as the most promising substrate



Fermentation of chicory peelings by *Lactobacillus* strains significantly improves antioxidant activity in both cell lines tested



To identify the compounds responsible for the antioxidant activity observed in the cell lines



To investigate strain consortia for fermentation



To evaluate the effects of fermentation supernatants on other cell lines for cosmetic applications



Scale-up to industrial production