

| | | | | | | | | | | | | |
|--------|----------------------|---|---|---|---|---|---|---|---|---|---|---|
| LVT2 | Gram+, Irregular rod | + | + | + | + | + | + | + | + | + | + | + |
| LVT3 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| LVT4 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| LVT5 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| LVT6 | Gram+, cocci | - | + | + | - | + | + | + | + | + | + | + |
| LVT7 | Gram+, Irregular rod | + | + | + | + | + | + | + | + | + | + | + |
| LVT8 | Gram+, Irregular rod | + | + | + | + | + | + | + | + | + | + | + |
| LVT9 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| LVT10 | Gram+, cocci | - | + | - | + | + | + | + | + | + | + | + |
| LVT11 | Gram+, cocci | - | + | - | - | + | + | + | + | + | + | + |
| LVT12 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| LVT13 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| LVT14 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| LVT14' | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| LVT15 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT1 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT2 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT3 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT4 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT5 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT6 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT7 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT8 | Gram+, cocci | - | + | - | + | + | + | + | + | + | + | + |
| CaT9 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT10 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT11 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT12 | Gram+, cocci | - | + | - | + | + | + | + | + | + | + | + |
| CaT13 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT14 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT15 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT16 | Gram+, cocci | - | + | + | - | + | + | + | + | + | + | + |
| CaT17 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CaT18 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| VR1 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| VR2 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |

| | | | | | | | | | | | | |
|-------|--------------|---|---|---|---|---|---|---|---|---|---|---|
| VR3 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| VR4 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| VR5 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| VR6 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| VR8 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa1 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa2 | Gram+, cocci | + | - | + | + | + | + | + | + | + | + | + |
| MRa3 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa4 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa5 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa6 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa7 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa8 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa9 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa10 | Gram+, cocci | + | - | + | + | + | + | + | + | + | + | + |
| MRa11 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa12 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa13 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa14 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| MRa15 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| RS1 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| RS2 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| RS3 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| RS4 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| RS5 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| RS6 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| RS7 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| RS8 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| RS9 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| M1 | Gram+, cocci | + | - | + | + | + | + | + | + | + | + | + |
| M2 | Gram+, cocci | + | - | + | + | + | + | + | + | + | + | + |
| M3 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| M4 | Gram+, cocci | + | - | + | - | + | + | + | + | + | + | + |
| M5 | Gram+, cocci | + | - | - | - | + | + | + | + | + | + | + |
| M6 | Gram+, cocci | + | - | - | - | + | + | + | + | + | + | + |

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|------|--------------|---|---|---|---|---|---|---|---|---|---|---|
| LB16 | Gram+, rod | - | + | + | + | + | + | + | + | + | + | + |
| LB17 | Gram+, rod | - | + | + | + | + | + | + | + | + | + | + |
| LB18 | Gram+, rod | - | + | + | + | + | + | + | + | + | + | + |
| LB19 | Gram+, rod | - | + | + | + | + | + | + | + | + | + | + |
| LB20 | Gram+, rod | - | + | + | + | + | + | + | + | + | + | + |
| VS1 | Gram+, cocci | - | + | + | - | + | + | + | + | + | + | + |
| VS2 | Gram+, cocci | - | + | + | - | + | + | + | + | + | + | + |
| VS3 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| VS4 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| VS5 | Gram+, cocci | - | + | - | - | + | + | + | + | + | + | + |
| VS6 | Gram+, cocci | - | + | + | - | + | + | + | + | + | + | + |
| VS7 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| VS8 | Gram+, cocci | - | + | - | + | + | + | + | + | + | + | + |
| VS9 | Gram+, cocci | - | + | - | + | + | + | + | + | + | + | + |
| VS10 | Gram+, cocci | - | + | - | + | + | + | + | + | + | + | + |
| CH1 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CH2 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| CH3 | Gram+, cocci | - | + | + | - | + | + | + | + | + | + | + |
| CH4 | Gram+, cocci | + | - | - | + | + | + | + | + | + | + | + |
| CH5 | Gram+, cocci | + | - | + | + | + | + | + | + | + | + | + |
| CH6 | Gram+, cocci | + | - | + | + | + | + | + | + | + | + | - |
| CH7 | Gram+, cocci | - | + | + | + | + | + | + | + | + | + | + |
| LB1a | Gram+, rod | - | + | + | - | + | + | + | + | + | + | + |
| LB2a | Gram+, rod | - | + | + | - | + | + | + | + | + | + | + |
| LB3a | Gram+, rod | - | + | + | - | + | + | + | + | + | + | + |
| LB4a | Gram+, rod | - | + | + | - | + | + | + | + | + | + | + |
| LB5a | Gram+, rod | - | + | + | + | + | + | + | + | + | + | + |
| LB1b | Gram+, rod | - | + | + | + | + | + | + | + | + | + | + |
| LB2b | Gram+, rod | - | + | + | + | + | + | + | + | + | + | + |
| LB3b | Gram+, rod | + | - | - | + | + | + | + | + | + | + | + |
| LB4b | Gram+, rod | + | - | - | + | + | + | + | + | + | + | + |
| LB5b | Gram+, rod | + | - | - | + | + | + | + | + | + | + | + |
| LB6b | Gram+, rod | - | + | + | + | + | + | + | + | + | + | + |
| M171 | Gram+, rod | - | + | + | - | + | + | + | + | + | + | + |
| M172 | Gram+, rod | - | + | + | - | + | + | + | + | + | + | + |

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Table S2. Fermentation profile of *W. cibaria* and *L. plantarum* selected strains using API 50 CHL

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| | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ME7 | + | + | + | + | - | + | + | - | - | - | - | - | - | + | - | - | - | - | - | - | - | + |
| ME10 | + | + | + | + | - | + | + | - | - | - | - | - | - | + | - | - | - | - | - | - | - | + |
| ME1 | + | + | + | + | - | + | + | - | - | - | - | - | - | + | - | - | - | - | - | - | - | + |
| ME9 | + | + | + | + | - | + | + | - | - | - | - | - | - | + | - | - | - | - | - | - | - | + |
| ME5 | + | + | + | + | - | + | + | - | - | - | - | - | - | + | - | - | - | - | - | - | - | + |
| ME101 | + | + | + | + | - | + | + | - | - | - | - | - | - | + | - | - | - | - | - | - | - | + |

Table S3. Proteolytic, amylolytic and lipolytic activity of the selected *W. cibaria* and *L. plantarum* strains.

| Strains | Proteolytic activity | | | Lipolytic activity 2% Tween 80 | Amylolytic activity 2% Starch |
|---------|----------------------|-----|-----|-----------------------------------|----------------------------------|
| | 2% | 5% | 10% | | |
| R15 | ++ | ++ | +++ | - | - |
| R17 | ++ | ++ | +++ | - | - |
| R12 | ++ | +++ | +++ | + | - |
| OL2 | + | ++ | ++ | - | - |
| ME7 | ++ | ++ | +++ | - | - |
| ME10 | + | ++ | ++ | - | - |
| ME1 | ++ | ++ | +++ | - | - |
| ME9 | ++ | ++ | +++ | - | - |
| ME5 | + | ++ | ++ | - | - |
| ME101 | + | ++ | ++ | - | - |
| VR81 | ++ | +++ | +++ | - | - |
| LVT1 | ++ | ++ | +++ | - | - |

+ ≤ 10 mm; 10 mm < ++ ≤ 20 mm ; +++ > 21

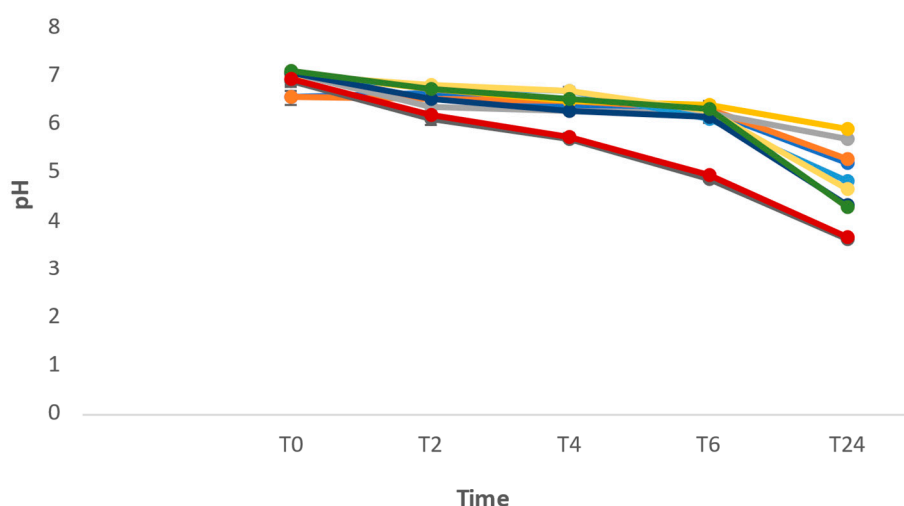


Figure S1. pH variation of skim and plant-based milk using single cultures of *W. cibaria* and *L. plantarum*. Skim milk + *L. plantarum* is represented by the dark blue curve; Skim milk + *W. cibaria* is represented by the orange curve; Cocunut milk + *L. plantarum* is represented by the grey curve; Cocunut milk + *W. cibaria* is represented by the orange curve; Soy milk + *L. plantarum* is represented by the light blue curve; Soy milk + *W. cibaria* is represented by the yellow curve; Oat milk + *L. plantarum* is represented by the black curve; Oat milk + *W. cibaria* is represented by the green curve; Quinoa + *L. plantarum* is represented by the dark grey curve; Quinoa + *W. cibaria* is represented by the red curve. Error bars indicate the standard deviation of triplicate experiments.

Table S4. Exopolysaccharide quantification of the selected LAB strains using sucrose as a sugar source.

| LAB strain | Exopolysaccharide mg/ml |
|------------|-------------------------|
| R15 | 1,08 ± 0.24 |
| R17 | - |
| R12 | - |
| OL2 | - |
| ME7 | 4,2 ± 0,17 |
| ME10 | 4,12 ± 0.12 |
| ME1 | 4,2 ± 0.28 |
| ME9 | 3,99 ± 0.29 |
| ME5 | 4,54 ± 0.26 |
| ME101 | 4,08 ± 0.06 |
| VR81 | 4 ,7 ± 0.02 |
| LVT1 | 4,6 ± 0.121 |