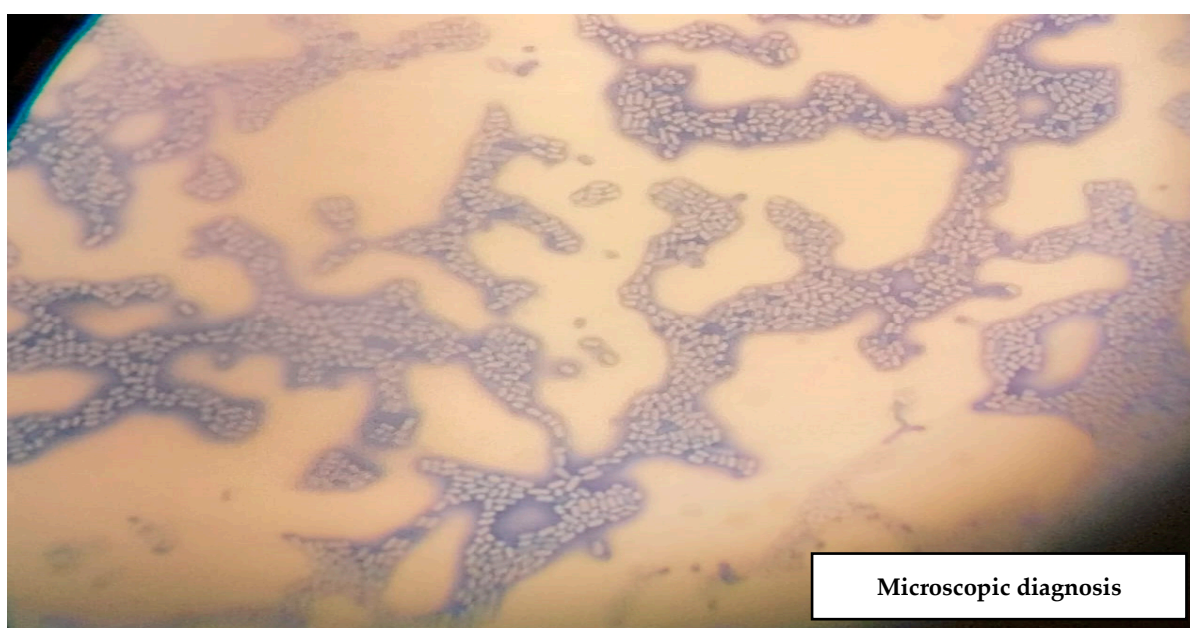
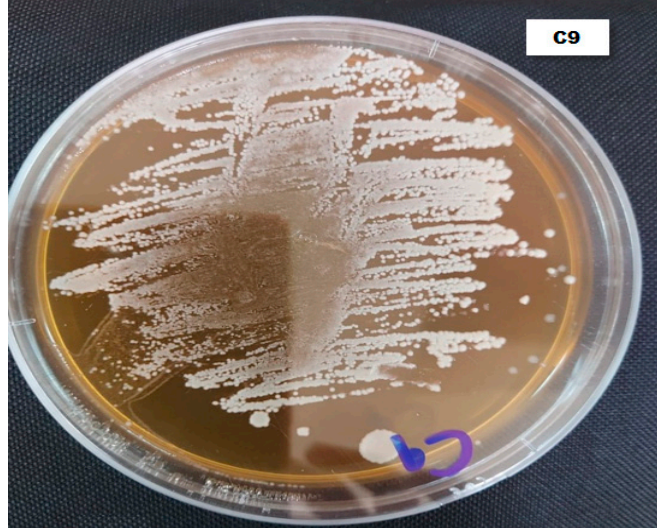
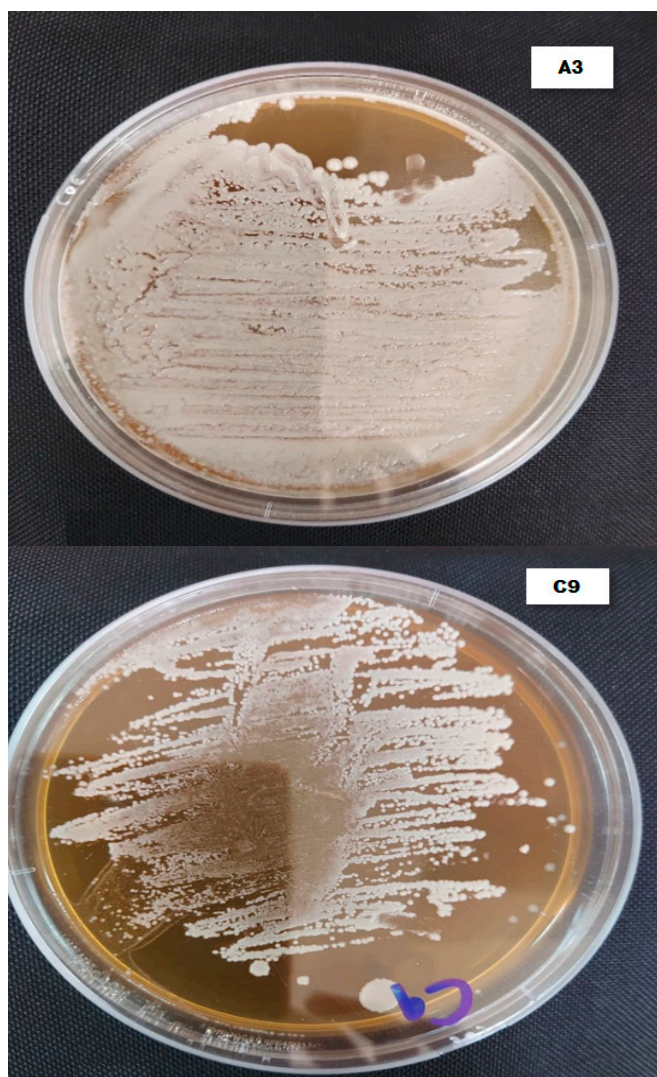


## Supplementary data:

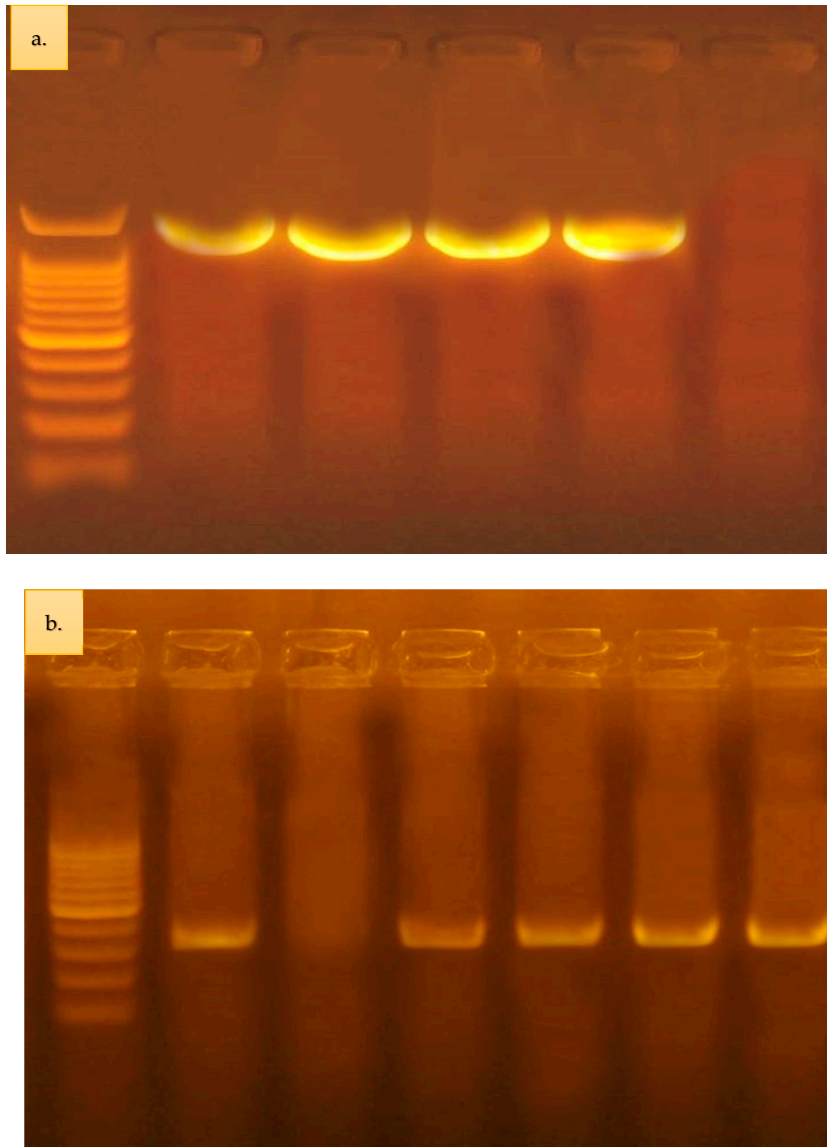
**Table S 1.** Purified and identified Lactic Acid Bacteria from different sources

| No. of Samples | Source                       | Pure isolated bacteria * | Identified bacteria **               |
|----------------|------------------------------|--------------------------|--------------------------------------|
| 1.             | Boza (A)                     |                          |                                      |
|                | A1                           | Coccus                   | Non identified                       |
|                | A2                           | Bacillus                 | Non identified                       |
|                | A3                           | Bacillus                 | <i>Limosilactobacillus fermentum</i> |
|                | A4                           | Bacillus                 | Non identified                       |
|                | A5                           | Coccus                   | Non identified                       |
|                | A6                           | Bacillus                 | Non identified                       |
|                | A7                           | Bacillus                 | Non identified                       |
|                | A8                           | Coccus                   | Non identified                       |
|                | A9                           | Bacillus                 | Non identified                       |
|                | A10                          | Bacillus                 | Non identified                       |
|                | A11                          | Coccus                   | Non identified                       |
|                | A12                          | Coccus                   | Non identified                       |
| 2.             | Fermented cider, fridge (B)  |                          |                                      |
|                | B1                           | Coccus                   | Non identified                       |
|                | B2                           | Coccus                   | Non identified                       |
|                | B3                           | Coccus                   | Non identified                       |
|                | B4                           | Coccus                   | Non identified                       |
|                | B5                           | Bacillus                 | Non identified                       |
|                | B6                           | Bacillus                 | <i>Limosilactobacillus fermentum</i> |
|                | B7                           | Bacillus                 | Non identified                       |
|                | B8                           | Bacillus                 | Non identified                       |
|                | B9                           | Bacillus                 | Non identified                       |
|                | B10                          | Bacillus                 | Non identified                       |
|                | B11                          | Bacillus                 | Non identified                       |
|                | B12                          | Bacillus                 | Non identified                       |
| 3.             | Fermented cider, ambient (C) |                          |                                      |
|                | C1                           | Bacillus                 | Non identified                       |
|                | C2                           | Bacillus                 | Non identified                       |
|                | C3                           | Bacillus                 | Non identified                       |
|                | C4                           | Bacillus                 | Non identified                       |
|                | C5                           | Bacillus                 | Non identified                       |
|                | C6                           | Bacillus                 | Non identified                       |
|                | C7                           | Bacillus                 | Non identified                       |
|                | C8                           | Coccus                   | Non identified                       |
|                | C9                           | Coccus                   | <i>Limosilactobacillus fermentum</i> |
|                | C10                          | Bacillus                 | Non identified                       |
|                | C11                          | Bacillus                 | Non identified                       |
|                | C12                          | Bacillus                 | Non identified                       |
| 4.             | Unfermented cider (D)        |                          |                                      |
|                | D1                           | Coccus                   | Non identified                       |
|                | D2                           | Bacillus                 | Non identified                       |
|                | D3                           | Bacillus                 | Non identified                       |
|                | D4                           | Bacillus                 | Non identified                       |
|                | D5                           | Bacillus                 | Non identified                       |
|                | D6                           | Bacillus                 | <i>Leuconostoc mesenteroides</i>     |
|                | D7                           | Coccus                   | Non identified                       |
|                | D8                           | Coccus                   | Non identified                       |
|                | D9                           | Bacillus                 | Non identified                       |
|                | D10                          | Bacillus                 | Non identified                       |
|                | D11                          | Bacillus                 | Non identified                       |
|                | D12                          | Bacillus                 | Non identified                       |

\*microscopic analysis \*\* identification by 16S rRNA and sequencing



**Figure S1.** the morphology of Lactic Acid Bacteria on MRS medium and microscopic diagnosis



**Figure S2.** the original picture of gel electrophoresis for (a. *16S rRNA* gene, and b. *gtf* gene)





**Figure S3.** Exopolysaccharides production from all tested LAB isolates after freeze-drying.



**Figure S4.** Exopolysaccharides production from all tested LAB isolates during freeze-drying in the round flasks.