



Probiotic Potential of Indigenous Yeast Species from Naturally Fermented Milk Products of Sikkim

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AIM:

We aimed to study the potentiality of dominant yeast species as probiotic yeast in artisanal fermented milk products *viz.* *dahi* and *chhurpi* of Sikkim.

INTRODUCTION:

- Dahi* and *Chhurpi* are the popular naturally fermented milk (NFM) products of Sikkim widely consumed by the ethnic people.
- Various culture-based methods have reported Bacterial diversity in fermented milk products and their probiotic attributes have also been reported.
- Yeast co-exist in the traditional fermented dairy foods of the Himalayas, we believe that some species of yeasts present may show probiotic attributes.

RESULTS:

Sample	No. of Samples	No. of Isolates	Acid (pH 2.0) and Bile tolerance (0.3% w/v)	Hydrophobicity ($\geq 80\%$)
<i>Dahi</i>	40	1779	54	8
<i>Chhurpi</i>	40	1659	61	12
Total	80	3438	115	20

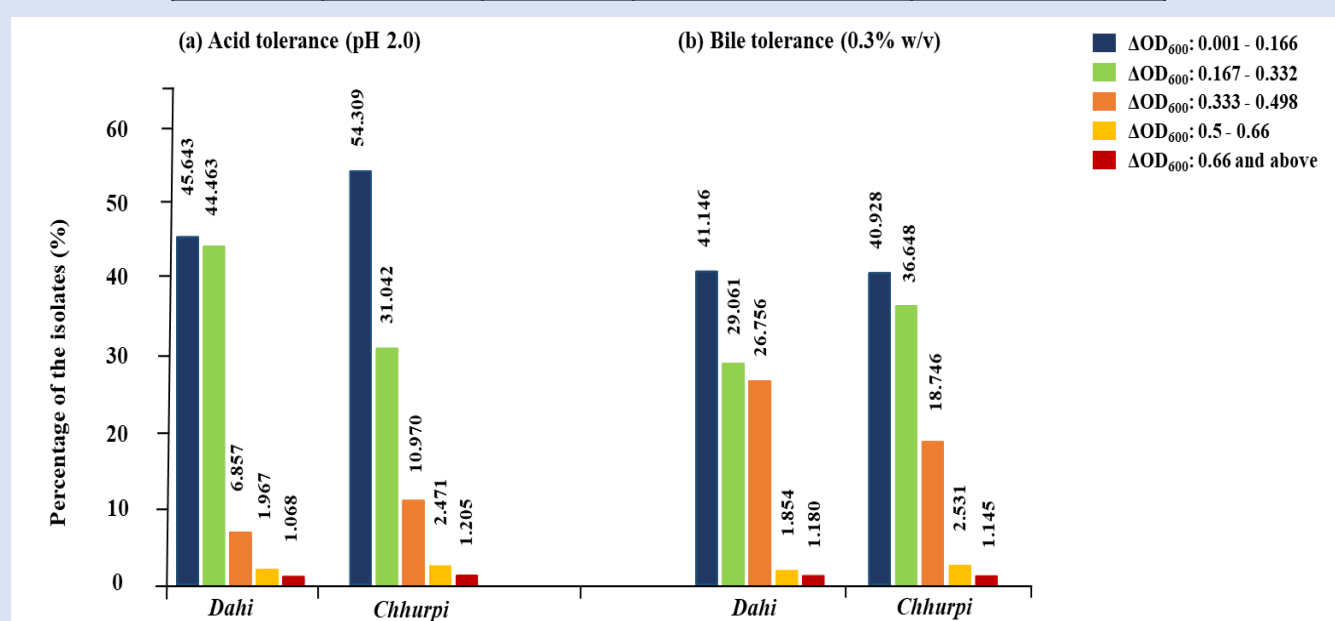


Figure 2. Screening of yeast isolates based on acid and bile tolerance tests.

METHODOLOGY:

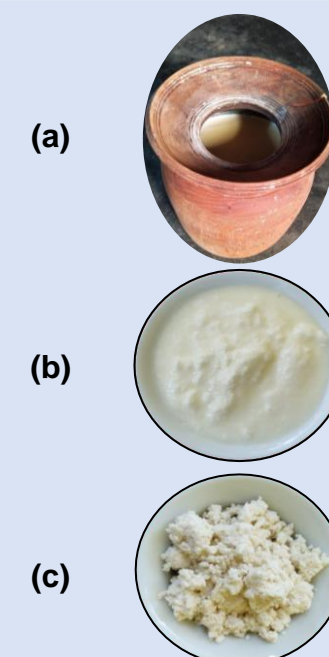
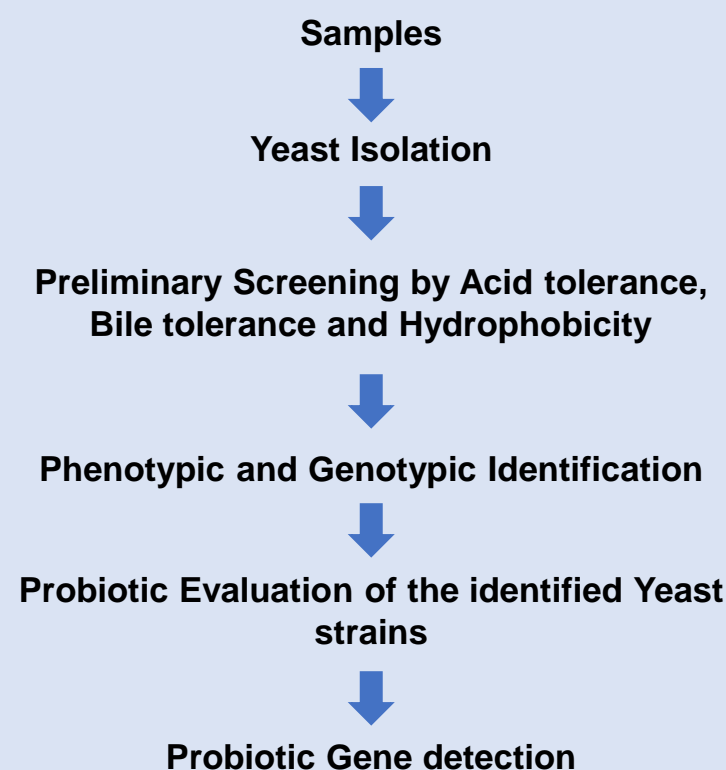


Figure 1. (a) Wooden vessel - *theki*, (b) *dahi* and (c) *chhurpi*

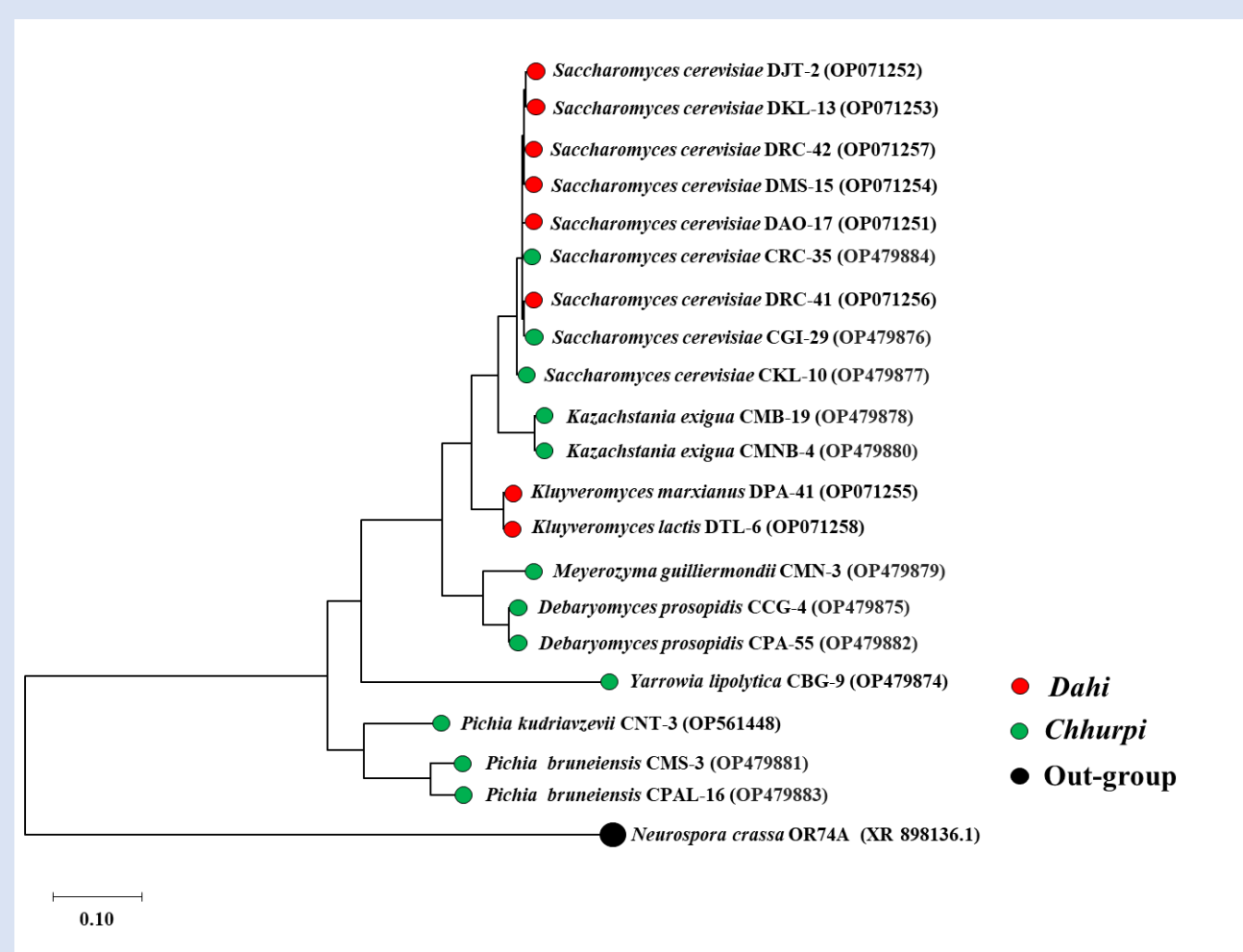


Figure 3. Molecular phylogenetic analysis.

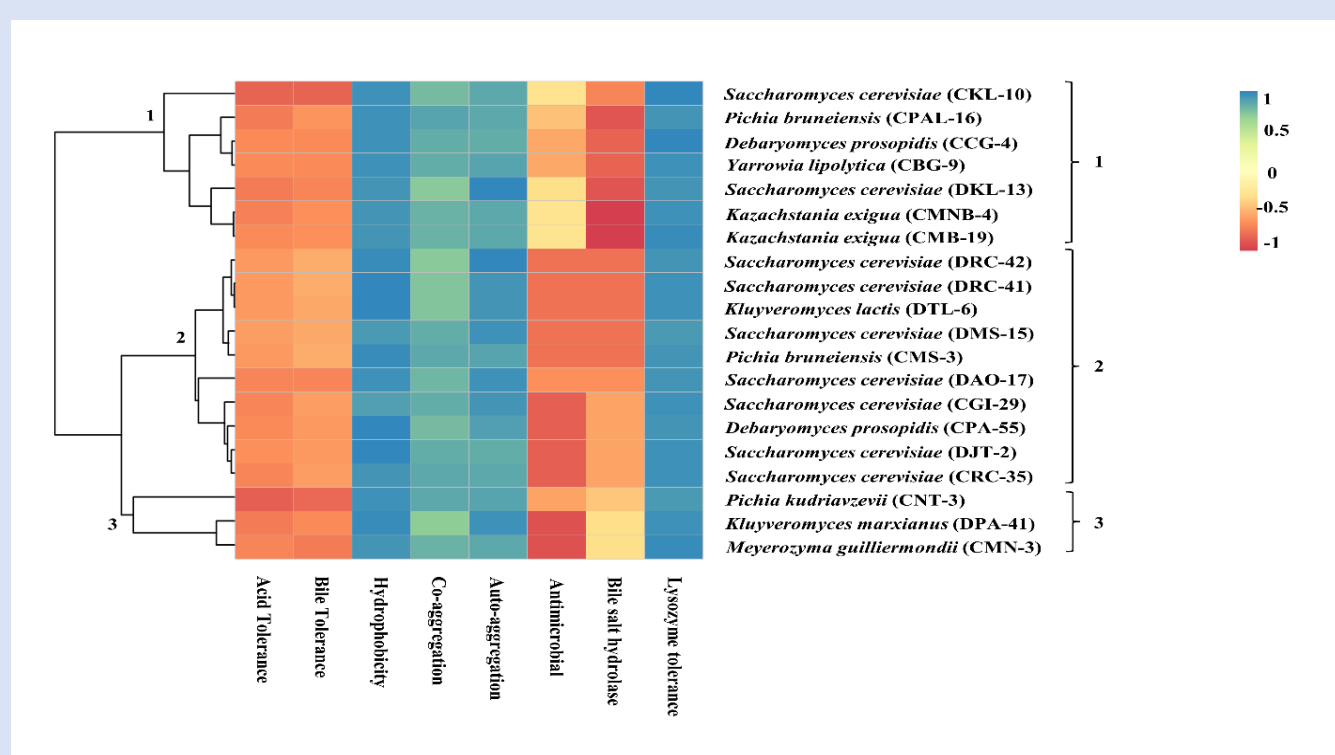


Figure 4. *In vitro* probiotic screening.

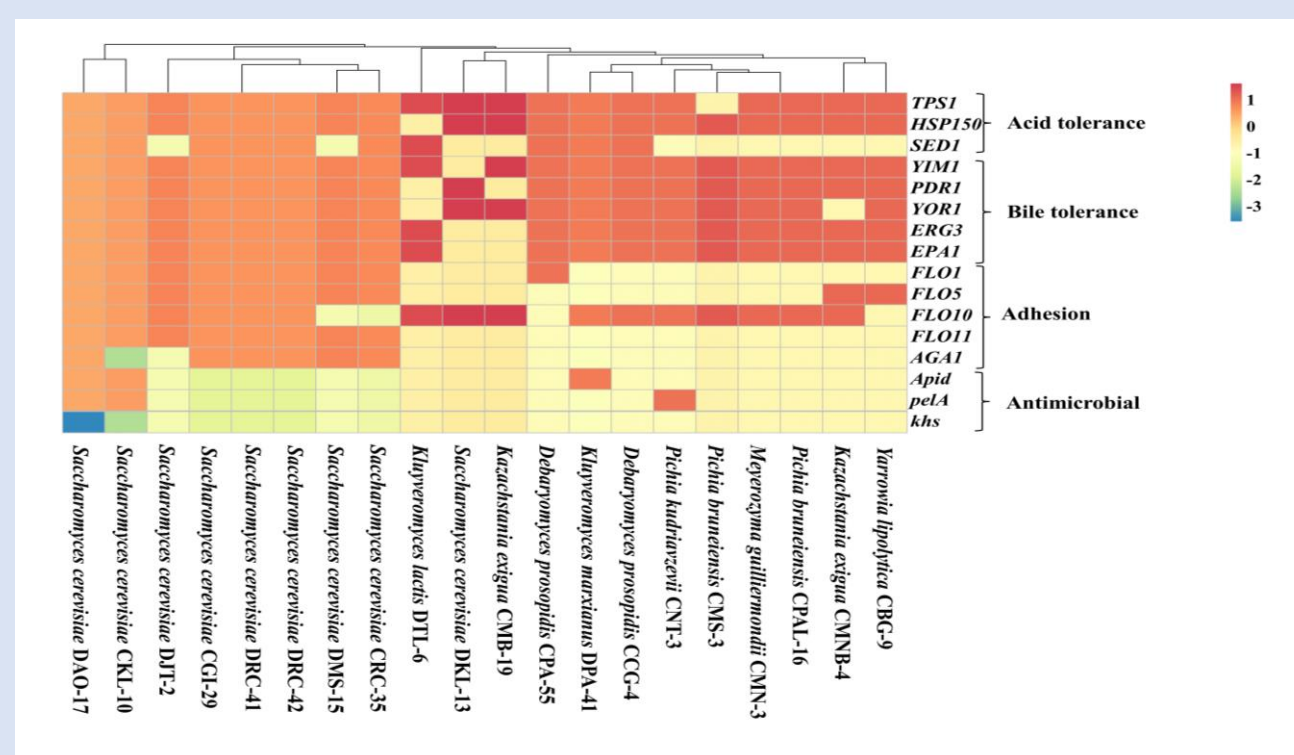


Figure 5. Probiotic gene detection.

CONCLUSION and KEY MESSAGE:

- Based on limited *in vitro* and genetic screening for probiotic traits, *Saccharomyces cerevisiae* DAO-17 and *Kluyveromyces marxianus* DPA-41 from *dahi* and *S. cerevisiae* CKL-10 and *Pichia kudriavzevii* CNT-3 from *chhurpi* has been selected as potential probiotic yeasts.

REFERENCES:

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