

Supplementary Materials

Screening, cloning, expression and characterization of new alkaline trehalose synthase from *Pseudomonas monteilii* and its application for trehalose production

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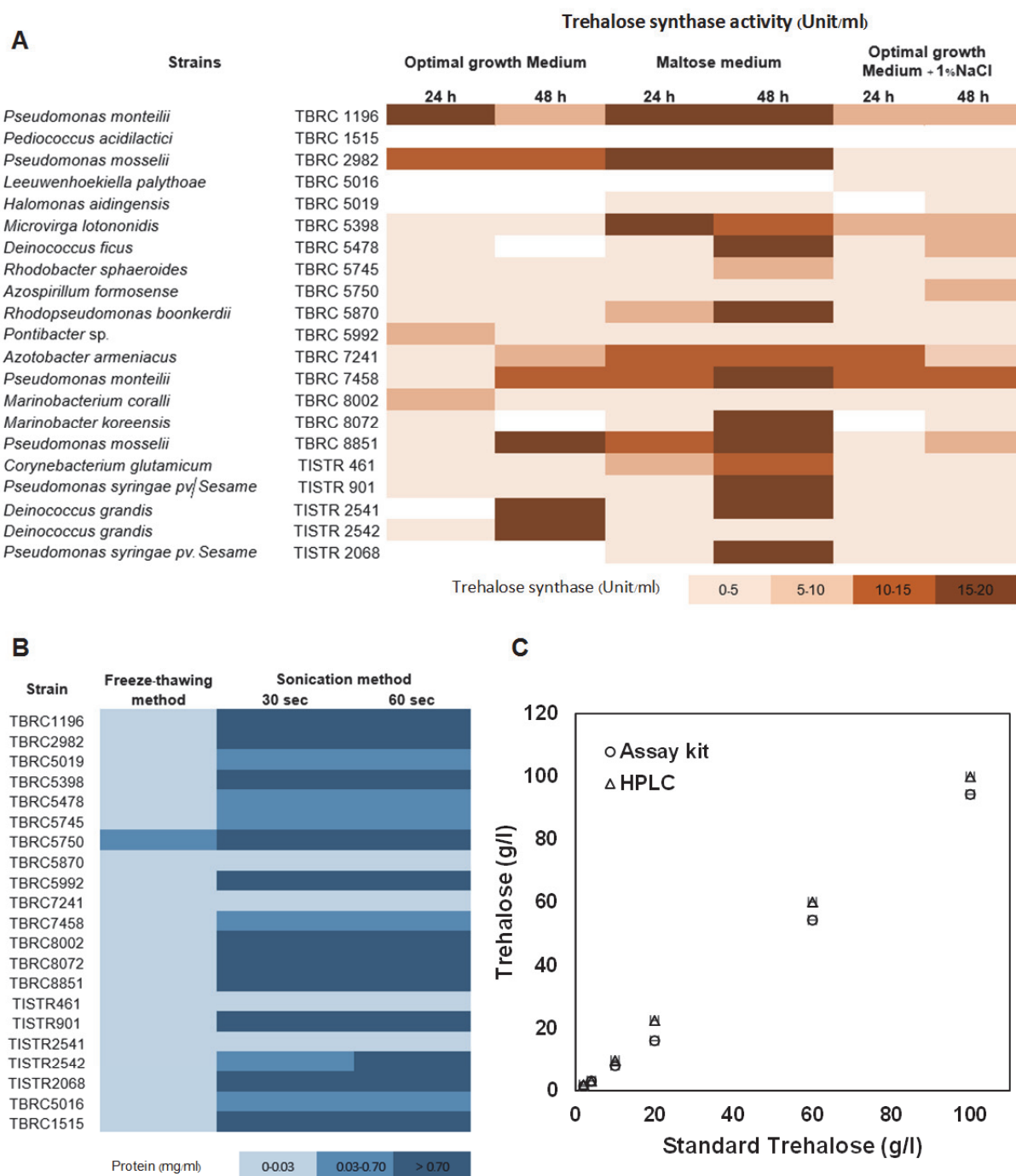


Fig. S1 (A) Trehalose synthase activity from diverse bacterial strains in different screening media cultivated for 24 and 48 hours. (B) Protein content of crude cell extract from different strains after freeze-thawing and sonication at 30 and 60 sec. (C) Correlation of two trehalose assay methods.

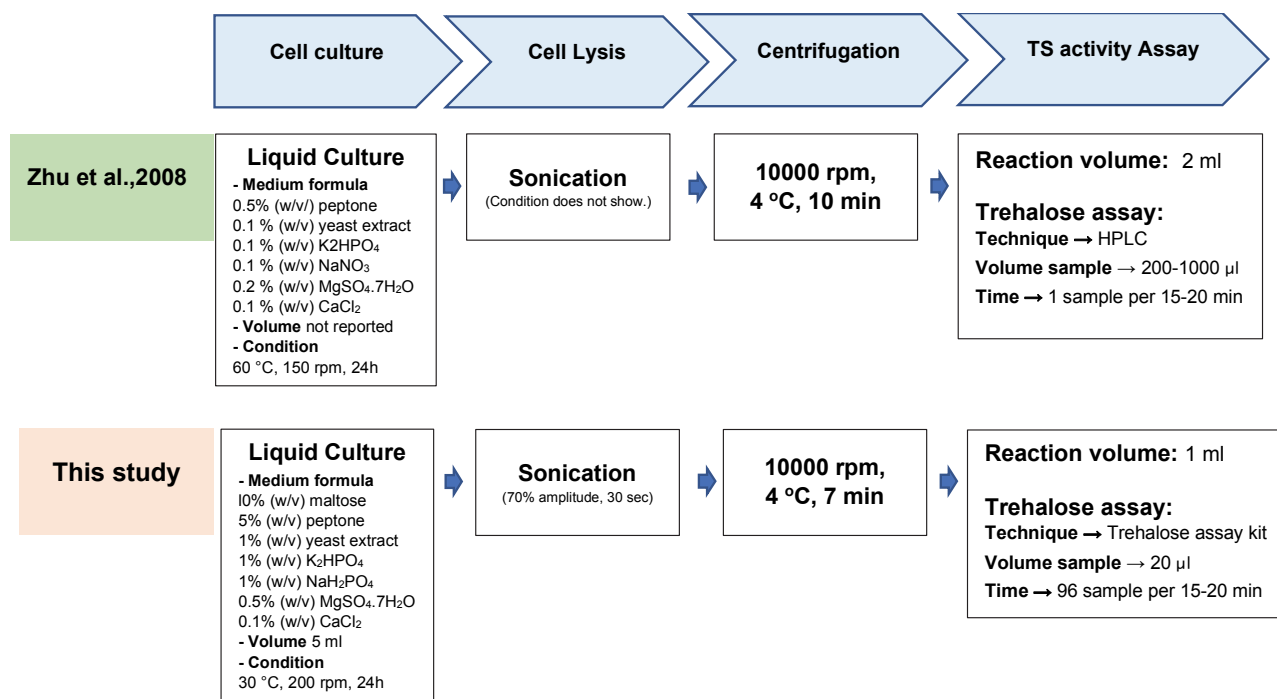


Fig.S2. Diagram of methods for screening of trehalose synthase-producing strains

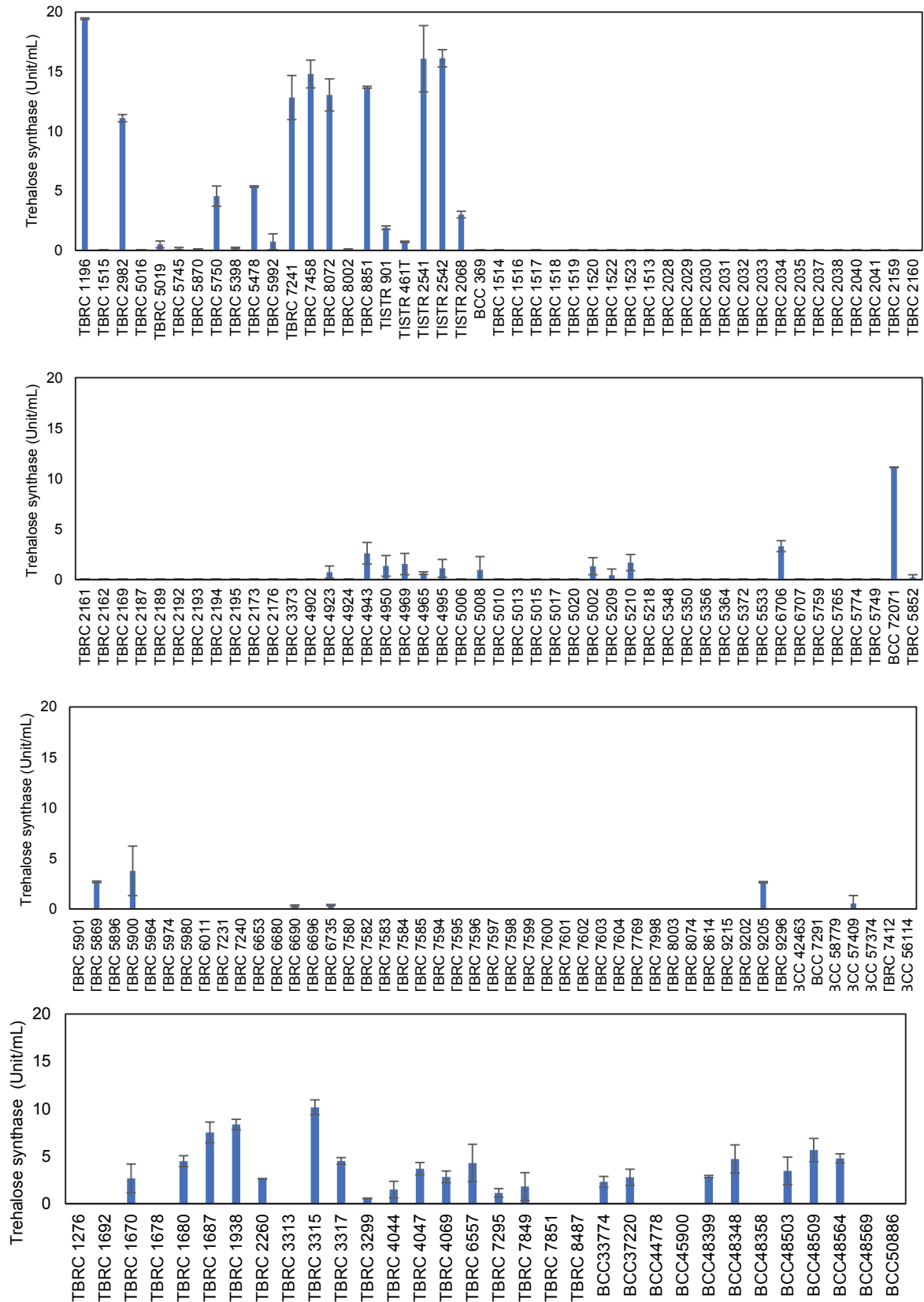


Fig.S3. Trehalose synthase activity of TBRC and TISTR strains in screening broth after incubation at 30°C for 24 hours.

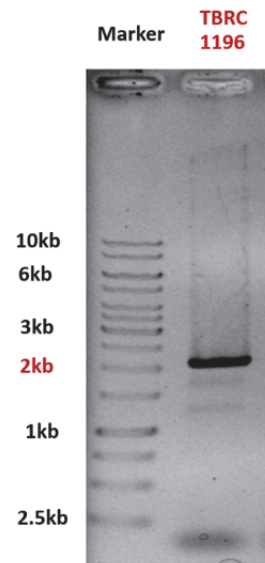


Fig.S4. Cloning of TreS gene from *P. monteilii* TBRC 1196. Marker: 1 kb DNA leader.

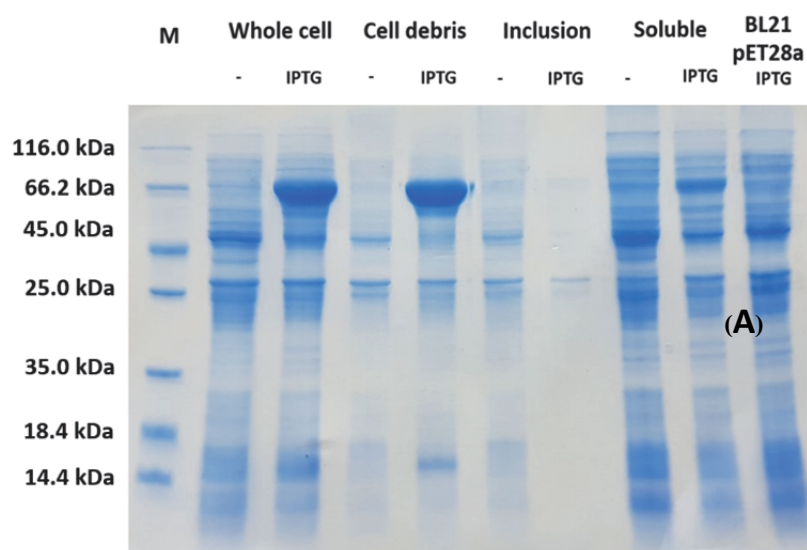


Fig.S5. SDS-PAGE analysis on protein profiles of the recombinant *E. coli* containing PmTreS gene. Lane M: standard protein marker. The recombinant clone was cultivated at 18°C and induced with 1 mM IPTG for 20 hours.

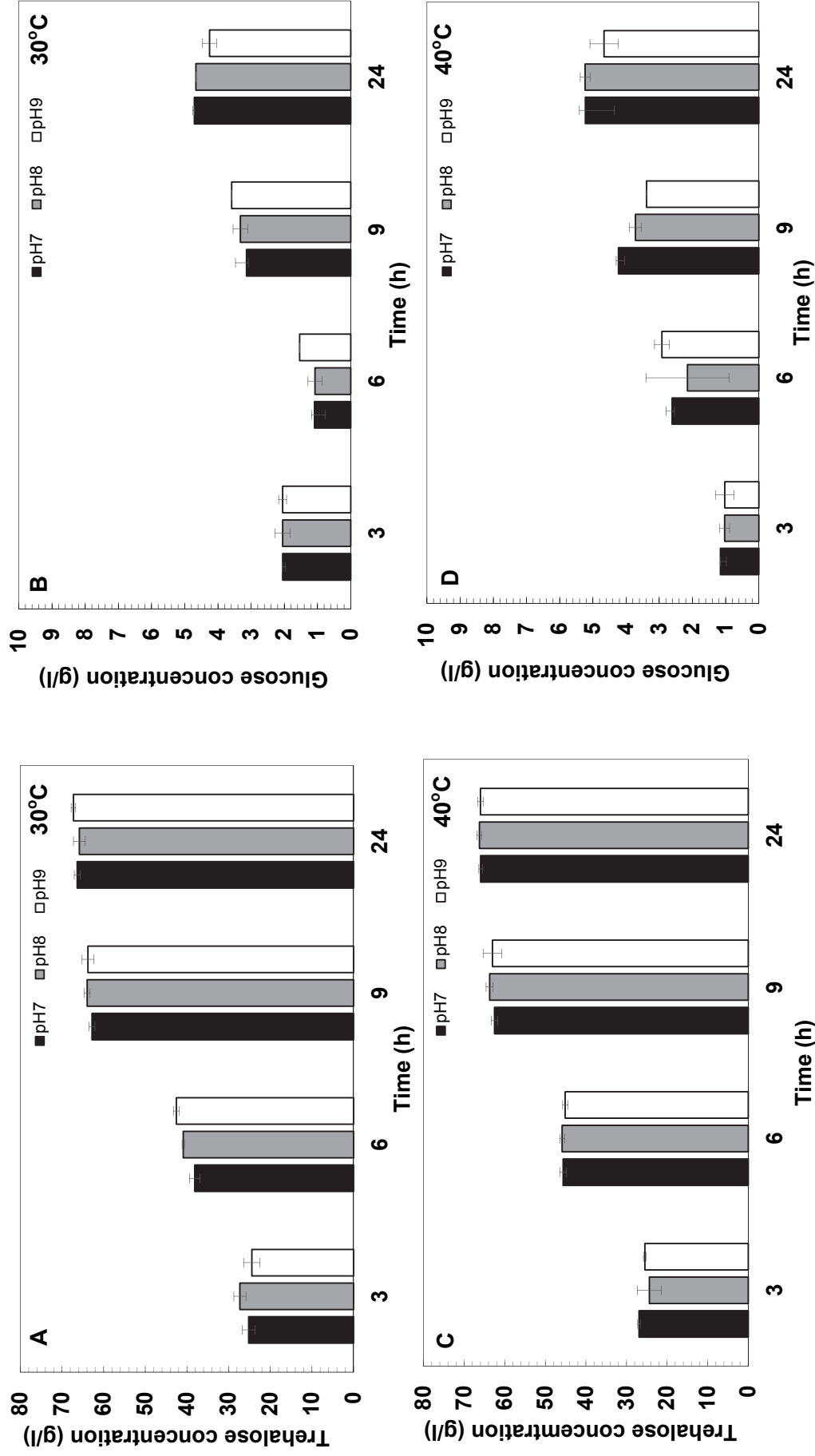


Fig. S6. Trehalose and glucose production by PmTreS at 30°C (A, B) and 40 °C (C, D). The reactions were carried out in 50 mM potassium phosphate buffer (pH 7.0 and 8.0) and 50 mM glycine-NaOH buffer (pH 9.0) with 100 g/l of maltose for 24 hours in a 250 ml shaking flask (working volume 50 ml).