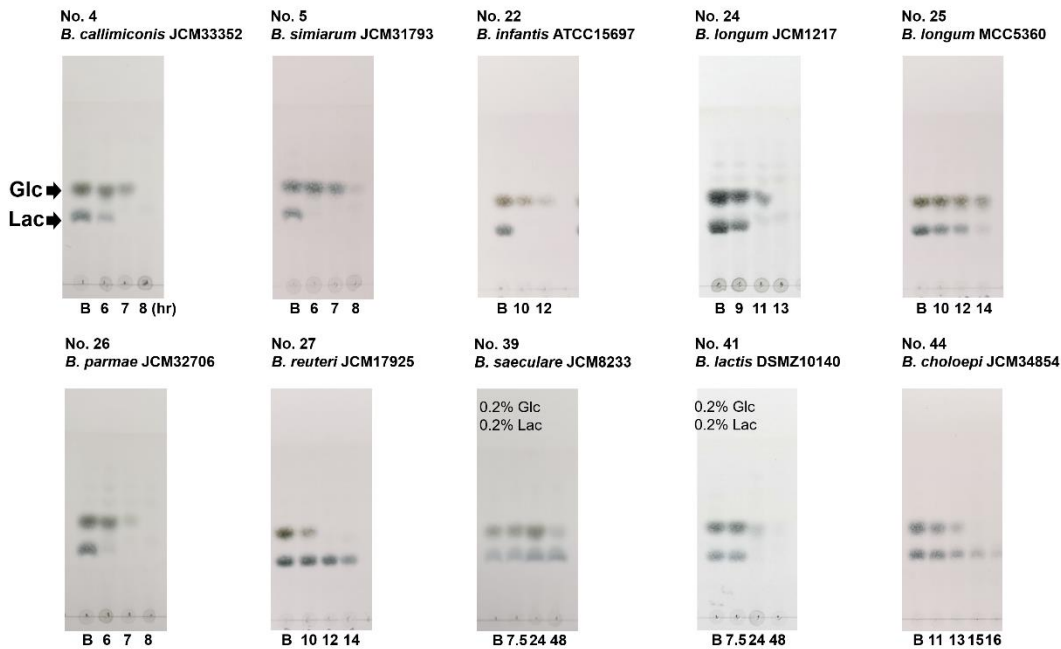
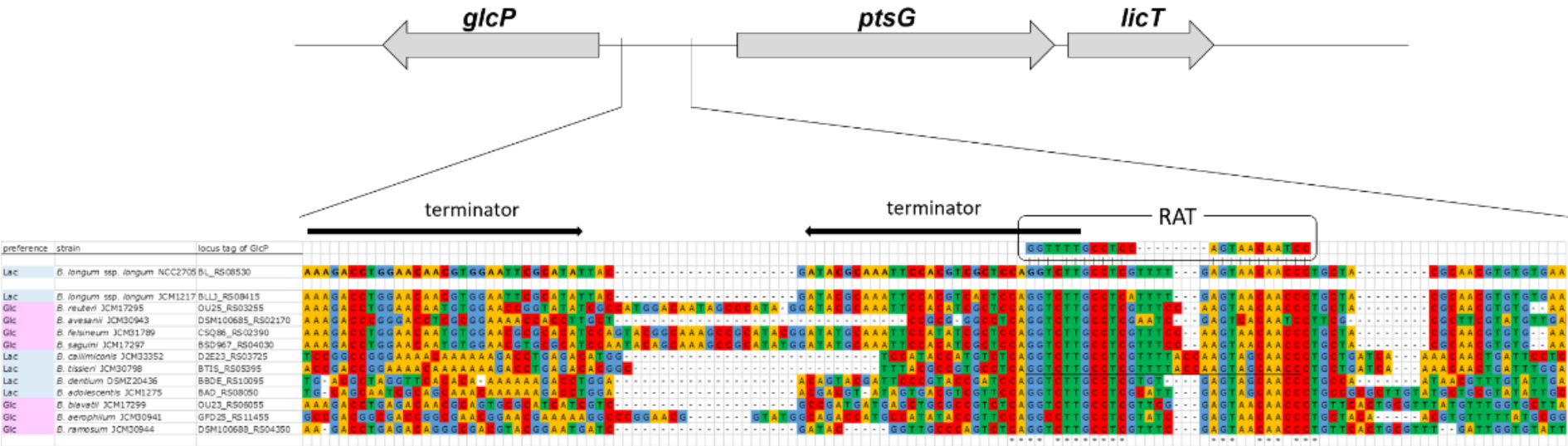


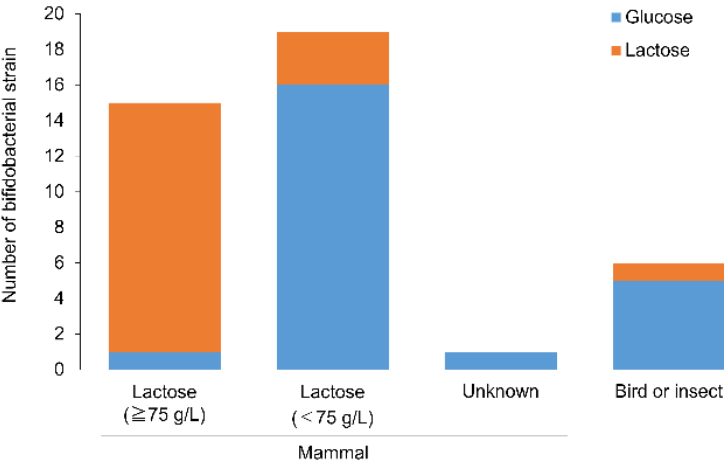
Supplementary Figure 1. Preferred consumption of glucose and/or lactose by *Bifidobacterium*. Utilization of carbon source by *Bifidobacterium* (No. 1 to 45) was evaluated at different time points using HPTLC. Lane B represents mixed glucose and lactose standard solution.



Supplementary Figure 2. Preferential utilization of glucose and lactose by *Bifidobacterium* cultured individually according to their growth rate. Utilization of carbon source by *Bifidobacterium* was evaluated at different time points using HPTLC. Strain Nos. 39 and 41 were cultured with half the concentration of glucose and lactose. Lane B represents mixed glucose and lactose standard solution.



Supplementary Figure 3. Sequence alignment of regulatory region of the *glcP* gene, which comprises a potential rho-independent terminator and a ribonucleic antiterminator (RAT) element, in 13 bifidobacterial strains harboring *glcP*.



Supplementary Figure 4. Number of bifidobacterial strains preferentially utilizing either glucose or lactose based on lactose content in the milk of their host. High and low lactose indicates milk containing lactose at ≥ 75 g/L or lower than 75 g/L, respectively.