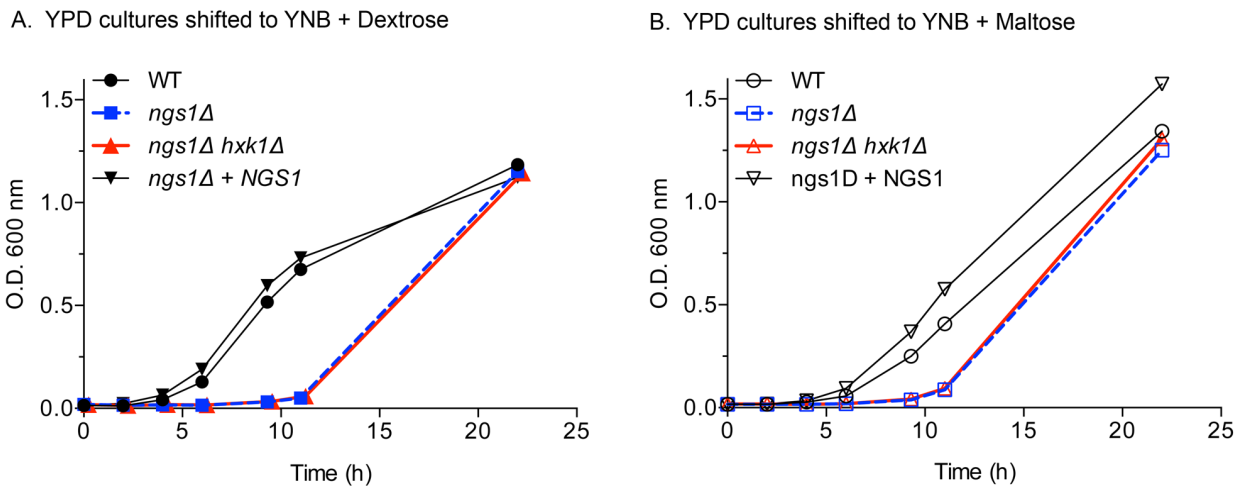
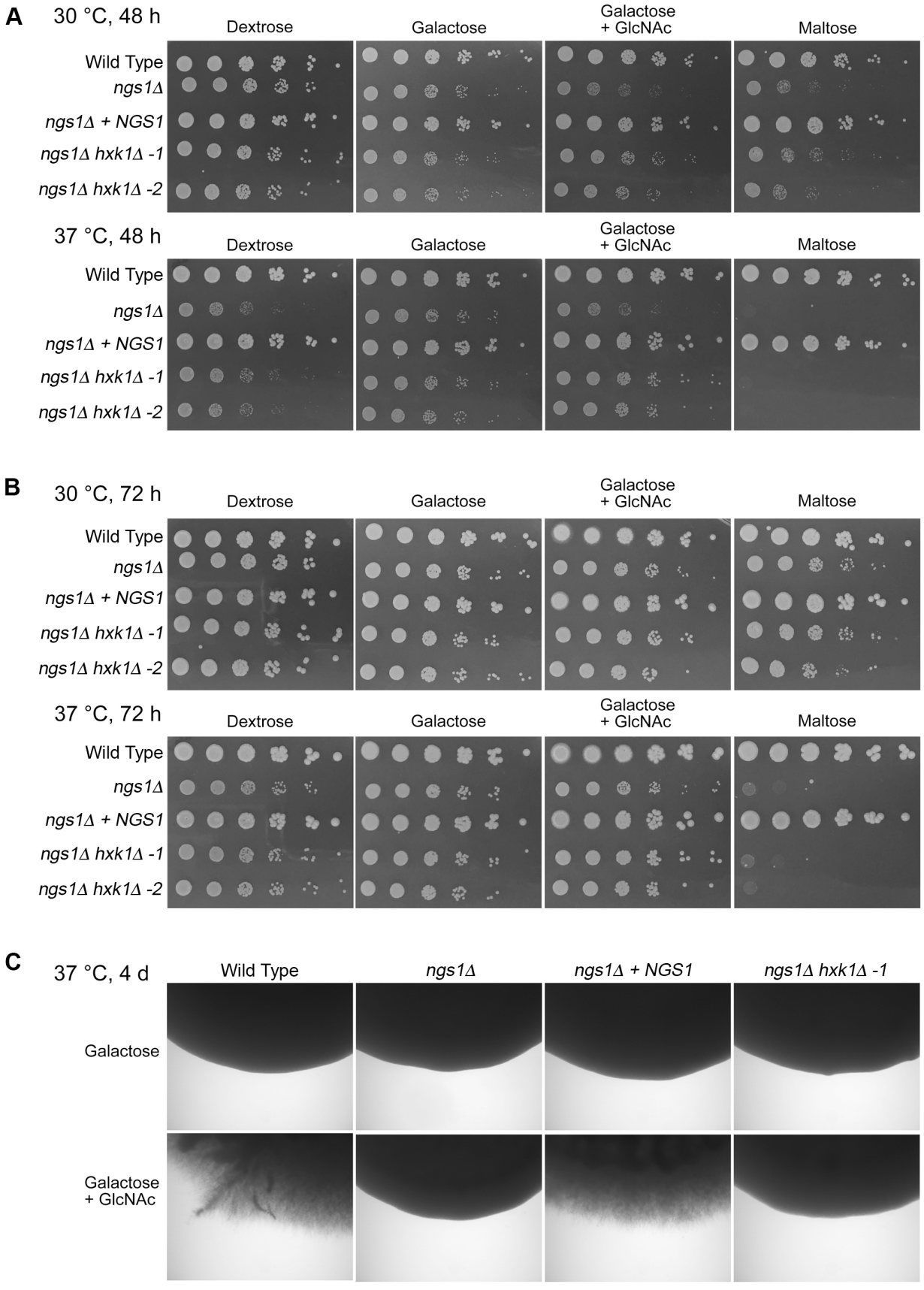


Supplemental Figure S1. The *ngs1Δ* mutant is delayed in growth after switching media.

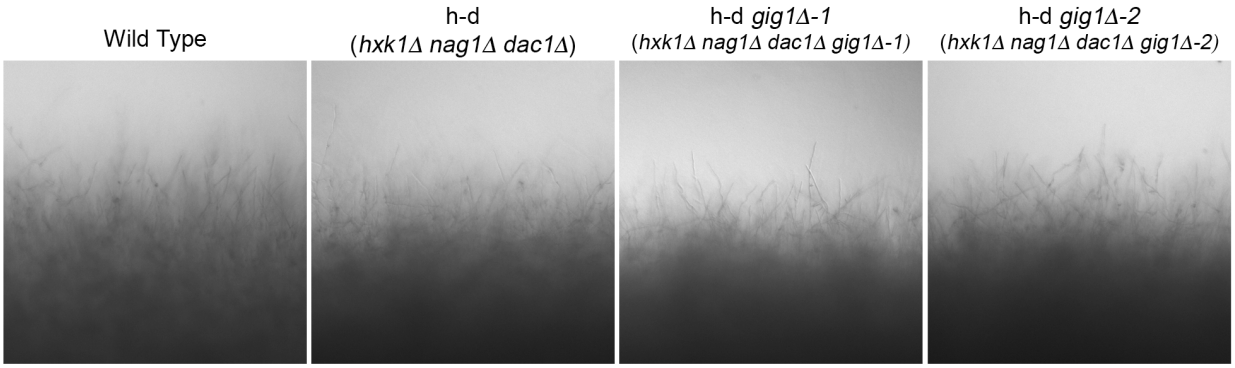
The indicated cells were grown first in rich YPD medium and then samples were washed and diluted into synthetic medium containing (A) dextrose or (B) maltose. Cells were grown at 30˚C and then the O.D.600 was recorded at the indicated times. The cells included the wild type control strain (LLF100), the *ngs1Δ* strain (SN1429), the *ngs1Δ* + *NGS1* complemented strain (SN1430), and the *ngs1Δ hxk1Δ* strain (KM1433).


A
30 °C, 48 h
Dextrose
Galactose
Galactose + GlcNAc
Maltose
Wild Type
ngs1Δ
ngs1Δ + NGS1
ngs1Δ hxk1Δ -1
ngs1Δ hxk1Δ -2
37 °C, 48 h
Dextrose
Galactose
Galactose + GlcNAc
Maltose
Wild Type
ngs1Δ
ngs1Δ + NGS1
ngs1Δ hxk1Δ -1
ngs1Δ hxk1Δ -2
B
30 °C, 72 h
Dextrose
Galactose
Galactose + GlcNAc
Maltose
Wild Type
ngs1Δ
ngs1Δ + NGS1
ngs1Δ hxk1Δ -1
ngs1Δ hxk1Δ -2
37 °C, 72 h
Dextrose
Galactose
Galactose + GlcNAc
Maltose
Wild Type
ngs1Δ
ngs1Δ + NGS1
ngs1Δ hxk1Δ -1
ngs1Δ hxk1Δ -2
C
37 °C, 4 d
Wild Type
ngs1Δ
ngs1Δ + NGS1
ngs1Δ hxk1Δ -1
Galactose
Galactose + GlcNAc

Supplemental Figure S2. Deletion of HXK1 from *ngs1Δ* cells reduces the toxic effects of GlcNAc, but does not improve growth on maltose or invasive growth into GlcNAc agar medium.

(A) Dilutions of cells indicated on the left were spotted onto synthetic agar medium containing the sugar shown at the top. Plates were incubated for the time and temperature indicated at the upper left side of each set.

(B) The indicated cells were spotted onto agar medium containing the sugar shown on the left, incubated for 4 d at 37˚C, and then the edge of the spot was photographed to record the extent of invasive growth. The cells included the wild type control strain (LLF100), the *ngs1Δ* strain (SN1429), the *ngs1Δ* + *NGS1* complemented strain (SN1430), and the *ngs1Δ hxk1Δ* strain (KM1433).



Supplemental Figure S3. *GIG1* does not influence the ability of *ron1Δ* cells to form hyphae.

Cells were spotted onto medium containing 50 mM galactose + 50 mM GlcNAc and then incubated at 37˚C for 4 d. The strains included the wild type (DIC185), *hxk1Δ nag1Δ dac1Δ* (AG738), *hxk1Δ nag1Δ dac1Δ gig1Δ*-1 (KM1435) and *hxk1Δ nag1Δ dac1Δ gig1Δ*-2 (KM1436).