

**Supplementary Figure 1: No chemical interaction between doxycycline and ascorbic acid**

A) Ascorbic acid (2.5 mM) still counteracts elongated growth upon GdA (10 $\mu$ M treatment) in the presence of doxycycline (0.1  $\mu$ g/ml) in wild type SC5314. Pictures were taken after 8 h. B) Genetic depletion of Hsp90 (0.1  $\mu$ g/ml Dox) is not significantly affected in the presence of ascorbic acid.

**Supplementary Figure 2: Cysteine blocks GdA-induced elongation**

Addition of 2.5 mM cysteine blocks the appearance of both GdA-induced (10  $\mu$ M) and Radicicol-induced (20  $\mu$ M) elongation of wild type SC5314, while methionine does not affect the elongated growth transition. Pictures were taken after 8 h of growth at 30 °C in rich medium.

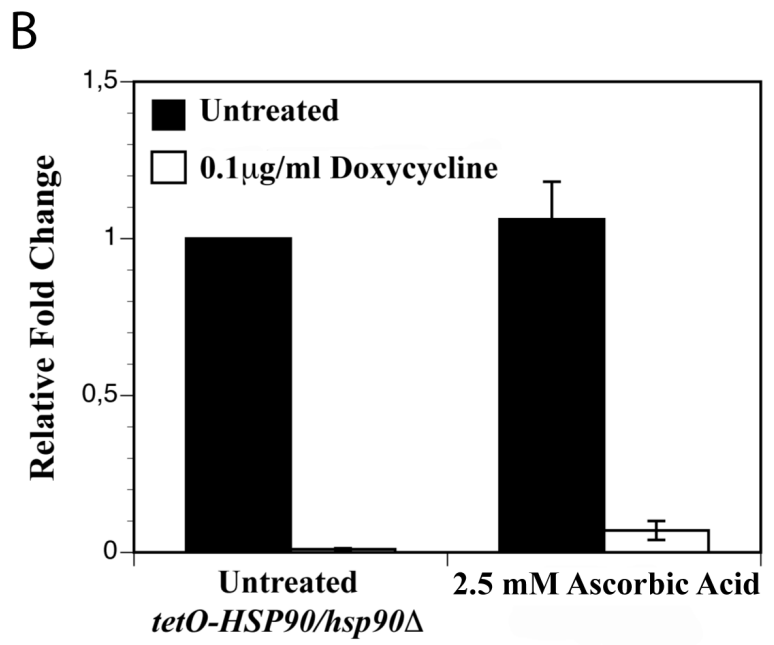
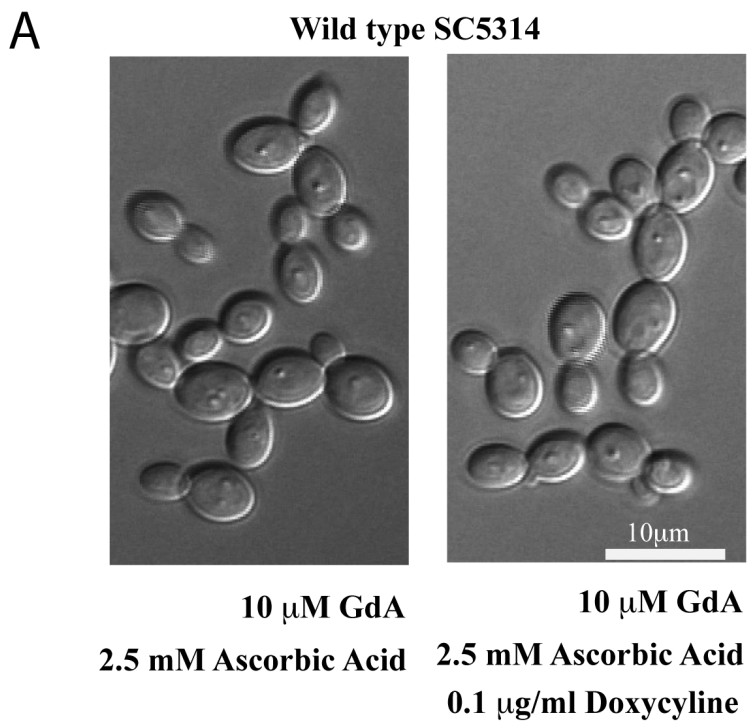
**Supplementary Figure 3: Depletion of *ERG11* does not increase cell lethality**

Cell viability upon Erg11 depletion was tested by propidium iodide staining (PI). A *tetO- ERG11/erg11 $\Delta$*  was grown at 30 °C in YPD rich medium supplemented with and without 0.1  $\mu$ g/ml Doxycycline. As a control for the staining, we included an untreated heat killed *tetO- ERG11/erg11 $\Delta$*  control. While these heat killed control cells are all stained, the dye is excluded from the viable untreated and Doxycycline treated *tetO- ERG11/erg11 $\Delta$*  cells.

**Supplementary Figure 4: Deletion of UPC2 does not result in hypersusceptibility to oxidative stress**

Susceptibility of the *upc2 $\Delta$ /upc2 $\Delta$*  mutants used in this study to oxidative stress was tested in drop assays in rich medium in the presence of different concentrations of

hydrogen peroxide. Comparison with the isogenic wild type strain is presented. Cells were grown to mid log phase in liquid YPD, diluted to OD<sub>600</sub> of 1, ten-fold serially diluted and spotted on the indicated media. Plates were photographed after 24 hours incubation at 37°C.

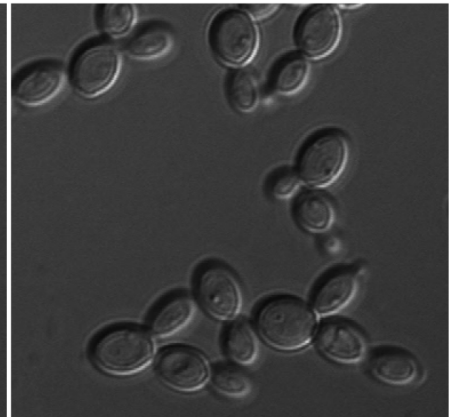
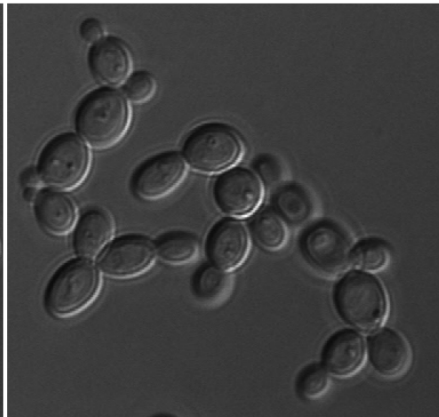
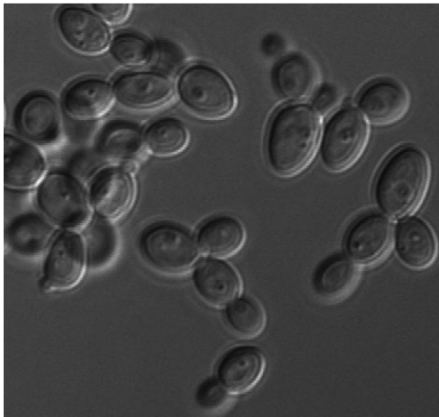


**Untreated**

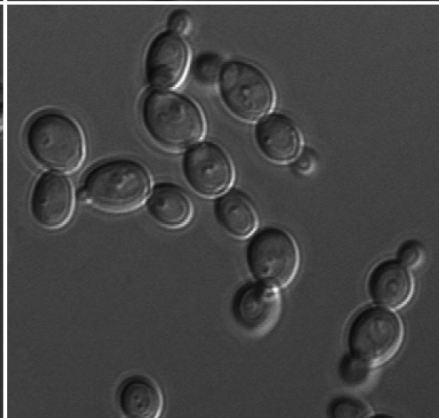
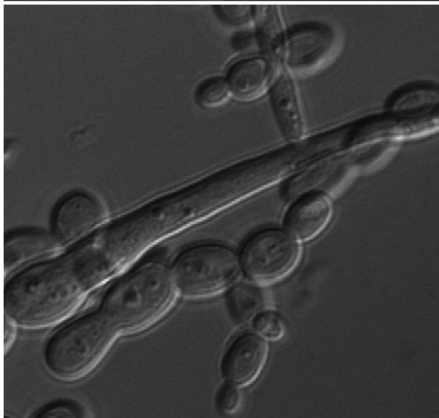
**2.5 mM L-Cysteine**

**2.5 mM Methionine**

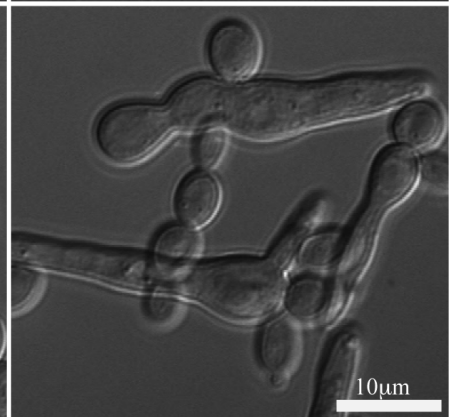
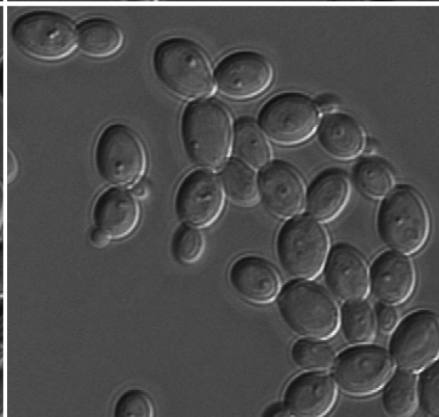
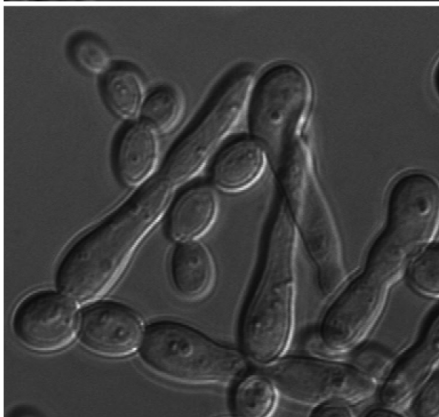
**Untreated**



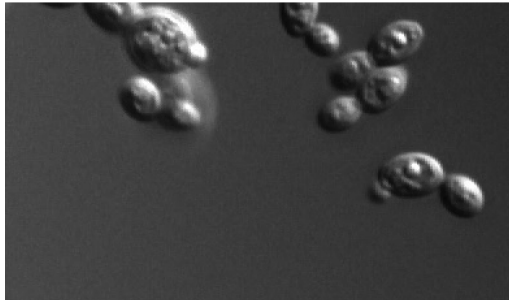
**10 $\mu$ M GdA**



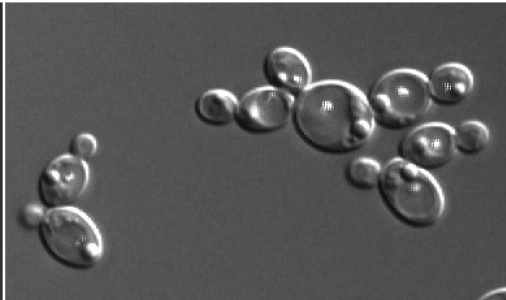
**20 $\mu$ M Rad**



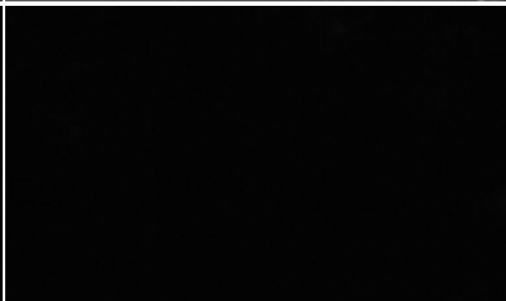
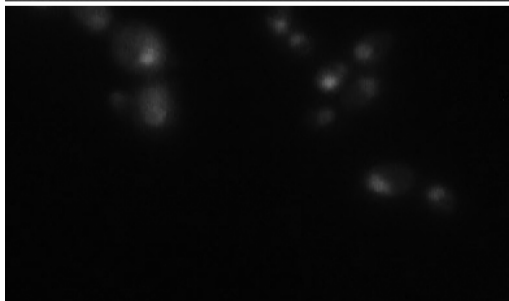
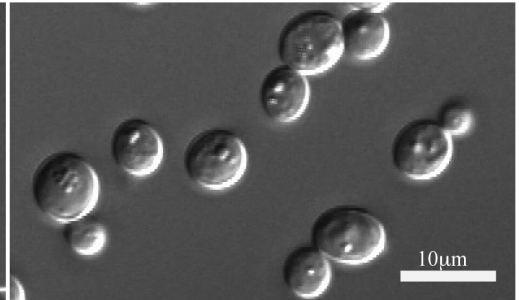
*tetO-ERG11/erg11* $\Delta$   
Heat killed Untreated

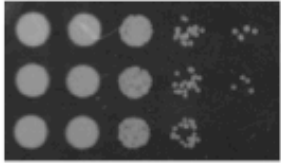


*tetO-ERG11/erg11* $\Delta$   
Untreated

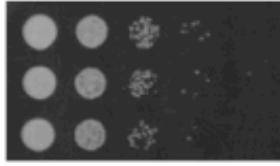


*tetO-ERG11/erg11* $\Delta$   
0.1  $\mu$ g/ml Dox

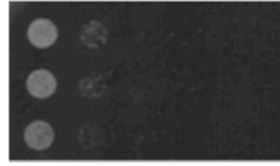




YPD



4 mM H<sub>2</sub>O<sub>2</sub>



6 mM H<sub>2</sub>O<sub>2</sub>

TF wild type

*upc2Δ/upc2Δ* (TF077 1<sup>st</sup> isolate)

*upc2Δ/upc2Δ* (TF077 2<sup>nd</sup> isolate)