Expanded View Figures

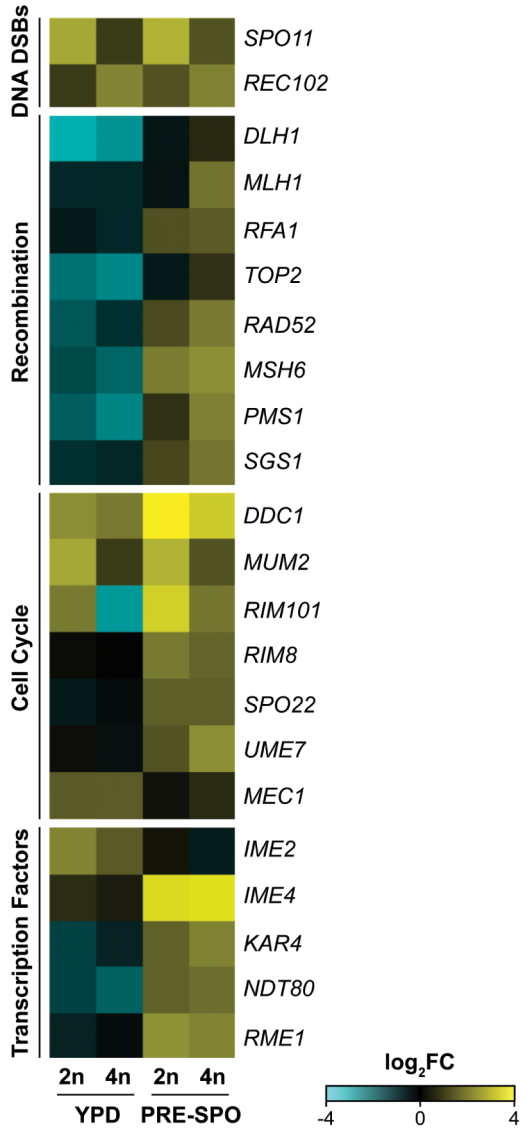

Figure EV1. Transcriptional profiling of meiosis genes on YPD and PRE-SPO media.

Heatmap of RNA-seq data for *C. albicans* homologs to "meiotic" genes in diploid and tetraploid cells on YPD and PRE-SPO media at 24 h, including programmed formation of DNA double-strand breaks (DSBs), recombination, coordination of the meiotic cell cycle, and transcription factors.

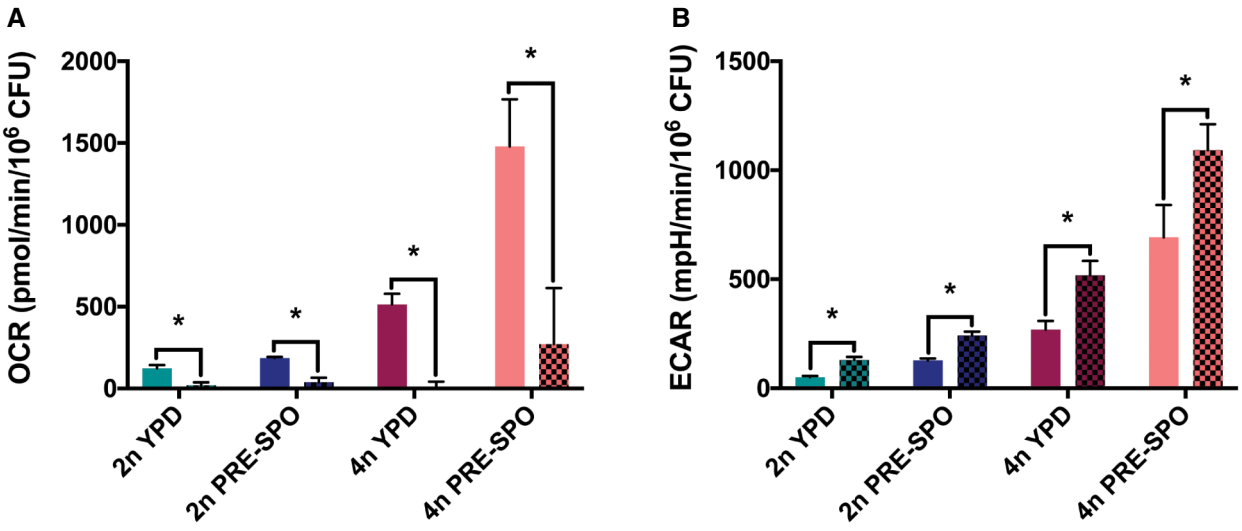

Figure EV2. Oxygen consumption on PRE-SPO medium is inhibited by restricting mitochondrial respiration.

A Oxygen consumption rates (OCR) in diploid and tetraploid cells following growth for 24 h on YPD and PRE-SPO media at 30 and 37°C, respectively. OCR was compared before (bars with no pattern) and after (bars with checkered pattern) treatment with the electron transport chain (ETC) inhibitors antimycin A (5 μM), rotenone (5 μM), and the alternative oxidase inhibitor SHAM (500 μM). (*) denotes a significant difference between indicated experimental groups ($P < 0.05$, Student's *t*-test, $n = 5$, error bars represent SEM).

B Extracellular acidification rates (ECAR) in diploid and tetraploid cells grown for 24 h on YPD and PRE-SPO media at 30 and 37°C, respectively, before (bars with no pattern) and after (bars with checkered pattern) treatment with the same ETC inhibitors as in (A). (*) denotes a significant difference between the indicated groups ($P < 0.05$, Student's *t*-test, $n = 5$, error bars represent SEM).

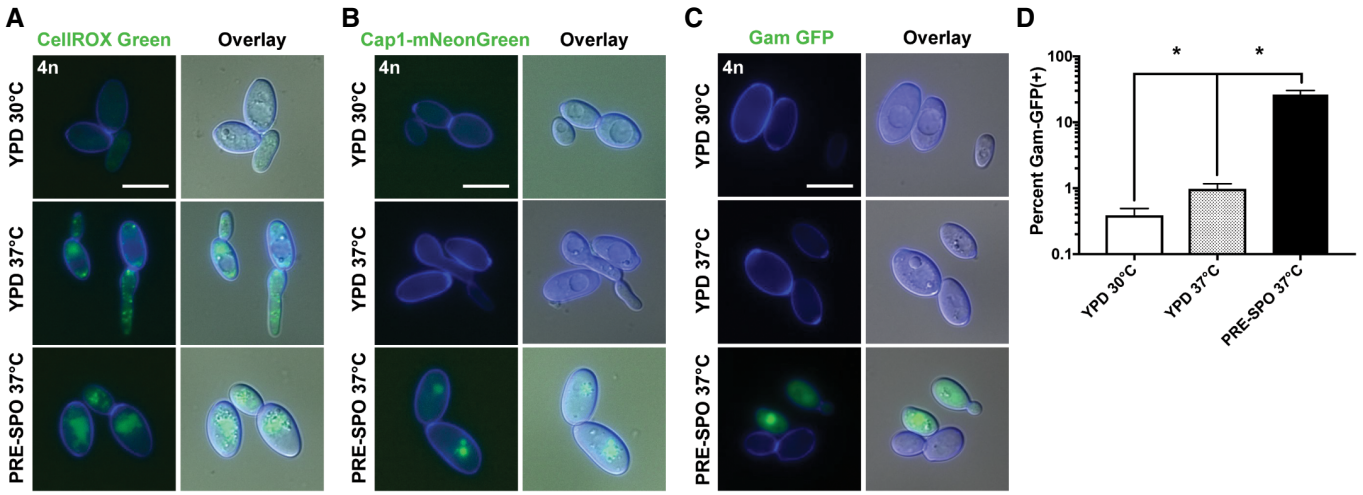

Figure EV3. Tetraploid cell response to growth on YPD medium at 37°C.

A Tetraploid cells were grown on YPD medium at 30 or 37°C, or PRE-SPO medium at 37°C, for 24 h and stained with CellROX Green. Cell images indicate calcofluor white staining (cell wall; blue), GFP, and a merged image of GFP/DAPI/DIC channels. Scale bar = 10 μm.

B Tetraploid cells containing a fluorescently labeled version of the Cap1 transcription factor (Cap1-mNeonGreen) were grown on YPD medium at 30 or 37°C, or PRE-SPO medium at 37°C, for 24 h. Cell images indicate calcofluor white staining (cell wall; blue), GFP, and a merged image of GFP/DAPI/DIC channels. Scale bar = 10 μm.

C A diploid strain expressing a Tet-ON Gam-GFP reporter was cultured on YPD medium at 30 or 37°C, or PRE-SPO medium at 37°C, in the presence (Gam-GFP ON) of doxycycline for 24 h. Cell images indicate calcofluor white staining (cell wall; blue), GFP, and a merged image of GFP/DAPI/DIC channels. Scale bar = 10 μm.

D Flow cytometric analysis of the tetraploid Gam-GFP reporter strain grown on YPD medium at 30 or 37°C, or PRE-SPO medium at 37°C in the presence of doxycycline for 24 h. (*) denotes a significant difference between the indicated groups ($P < 0.05$, Student's t-test, $n = 3$, error bars represent SEM).

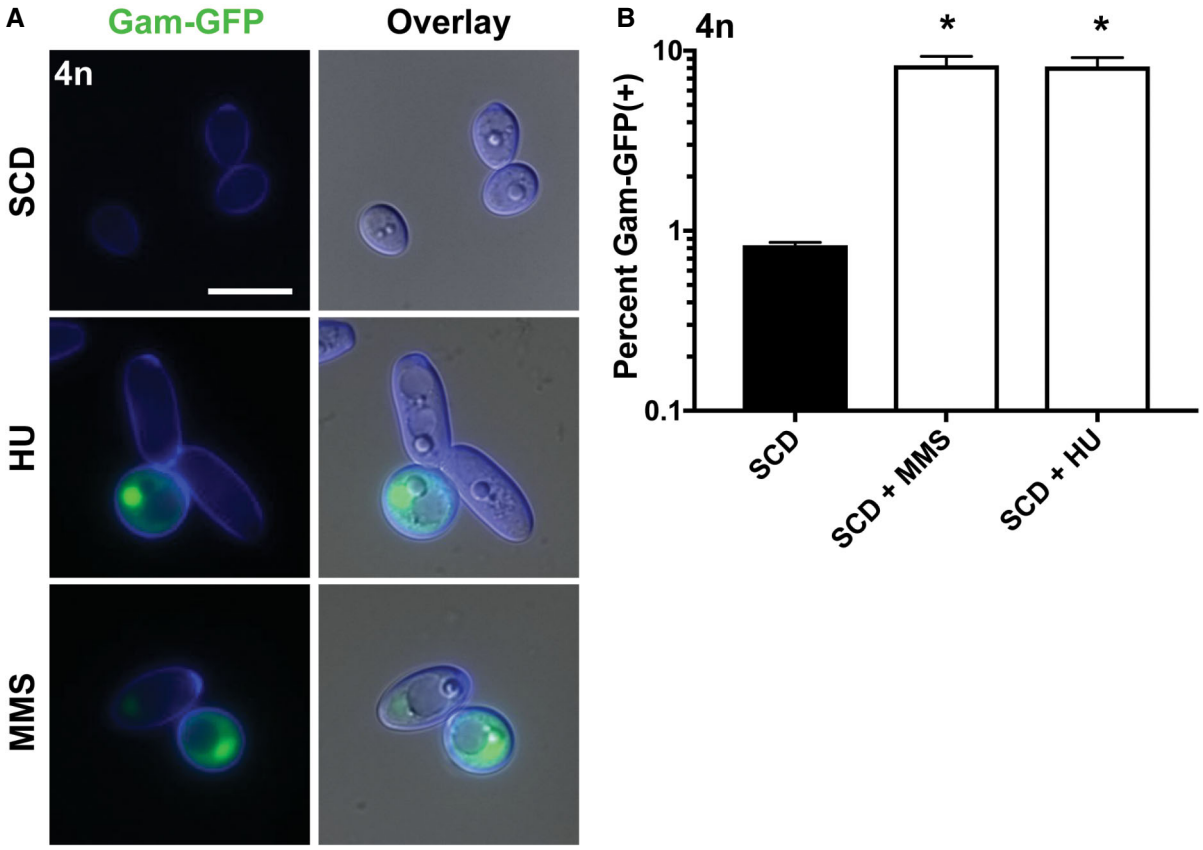

Figure EV4. Quantification of Gam-GFP signal as a readout of DNA damage.

A Tetraploid cells expressing a Gam-GFP reporter were cultured on SCD medium (37°C for 24 h) with or without the DNA-damaging agents HU (20 mM) or MMS (0.01%) and analyzed via fluorescence microscopy. Cell images indicate calcofluor white staining (cell wall; blue), GFP, and a merged image of GFP/DAPI/DIC channels. Scale bar = 10 μm.

B Flow cytometric analysis of the tetraploid Gam-GFP reporter strain grown on SCD medium (37°C for 24 h) with or without HU (20 mM) or MMS (0.01%). (*****) denotes a significant difference between untreated SCD medium and that supplemented with the indicated agent ($P < 0.05$, Student's *t*-test, $n = 3$, error bars represent SEM).