**SUPPORTING INFORMATION**

**Supplementary Figure 1 Intracellular ROS levels of other zinc-sensitive gene mutants in response to excess zinc.** Log-phase cells were grown with or without 3 mM ZnCl2 for 2 hours before harvesting and measurement of intracellular ROS levels using dihydroethidium. Results are averages of three independent assays for each strain.

**Supplementary Figure 2 Relative expression levels of *GSH1* and *GPX2* genes involved in oxidative stress response.** Gene expression is quantiﬁed using RT-qPCR and comparative critical threshold (2*-ΔΔCt*) method. The *PGK1* gene was used as internal control and the ratio of the fold-change without treatment was standardized to 1.0. These values represent the average of three independent experiments.

**Supplementary Figure 3 Increased intracellular ROS levels of zinc-sensitive gene mutants in response to 8 mM ZnCl2.** The relative ROS levels of these mutants in response to zinc treatment are normalized against their related untreated cells. Log-phase cells were grown with or without 8 mM ZnCl2 for 5 hours before harvesting and measurement of intracellular ROS levels using dihydroethidium. Results are averages of three independent assays for each strain.

**Supplementary Figure 4** Phenotypes of zinc-sensitive deletion mutants. Wild-type BY4743 cells and 20 zinc-sensitive gene deletion mutants were grown at 30°C in liquid YPD overnight, serially diluted 10-fold, spotted on the indicated plates and incubated for 2-3 days at 30°C.

**Supplementary Table 1** Primers used in this study

**Supplementary Table 2** List of 48 genes whose deletion mutants were also sensitive to zinc stress response reported previously