

1 **An assessment of the toxicity of CuO nanoparticles using**
2 **multiple-gene-deleted mutants of *Saccharomyces cerevisiae***

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6 **Table S1. Yeast strains used in this study**

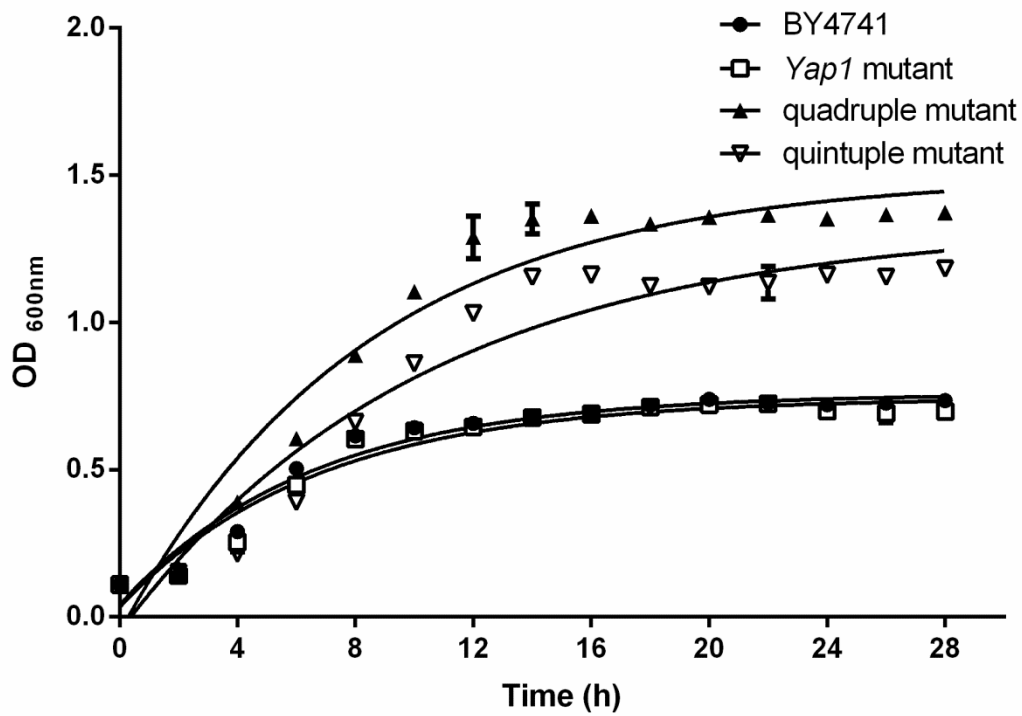
Strain	Genotype	Source
BY4741	MATa <i>his3Δ0 leu2Δ0 met15Δ0 ura3Δ0</i>	lab of aquatic animal protein engineering, Institute of Hydrobiology, Chinese Academy of Sciences (1)
<i>yap1</i> mutant	MATa <i>his3Δ0 leu2Δ0 met15Δ0 ura3Δ0 yap1Δ::hisG</i>	(2)
quadruple mutant	MATa <i>his3Δ0 leu2Δ0 met15Δ0 ura3Δ0 snq2Δ::KanMX, pdr5Δ::LEU2, cwp1Δ::hisG, cwp2Δ::HIS3</i>	(1)
quintuple mutant	MATa <i>his3Δ0 leu2Δ0 met15Δ0 ura3Δ0 snq2Δ::KanMX, pdr5Δ::LEU2, cwp1Δ::hisG, cwp2Δ::HIS3, yap1Δ::hisG</i>	(3)

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8 **Growth of yeast *S. cerevisiae* wild-type and mutants**

9 Yeast cells were inoculated in 20 ml of SD medium by overnight (16-18 hour) culturing at
10 30 °C, 200 rpm under dark conditions, from a single agar plate colony. Diluted the initial
11 culture optical density (OD) at 600 nm to 0.110±0.001 (d=0.5 cm) with fresh SD medium,
12 then aliquots of 100 ml cell culture were continued cultivating at 30 °C, 200 rpm under dark
13 conditions, and measured the value of optical density (OD) at 600 nm by the
14 spectrophotometer every two hours. Growth curves of yeast strains were presented in Figure
15 S1. Figure S1 showed that all strains' growth curves obeyed logistical growth curve ($r >$
16 0.9900), and except the *yap1* mutant, the biomasses of mutants were higher than that of the
17 wild-type strain, while during the exposure time (0-4 h), the biomass of different strains were
18 comparable ($p > 0.05$).

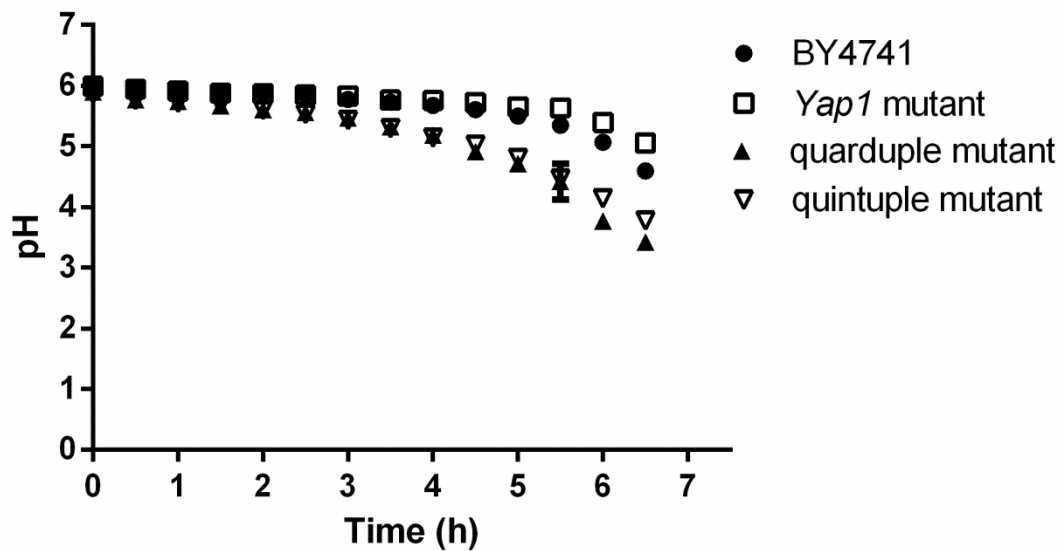
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21 **Fig. S1** Yeast *Saccharomyces cerevisiae* wild-type BY4741 and mutants' growth in SD medium at 30 °C with 200
 22 rpm continuous shaking during 28 h.

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25 **Fig. S2** Dynamic variation of pH values in the SD medium over time in the presences of yeast wild-type and
 26 mutants. Data are means \pm standard error of 3 independent replicates.

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30 **References**

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