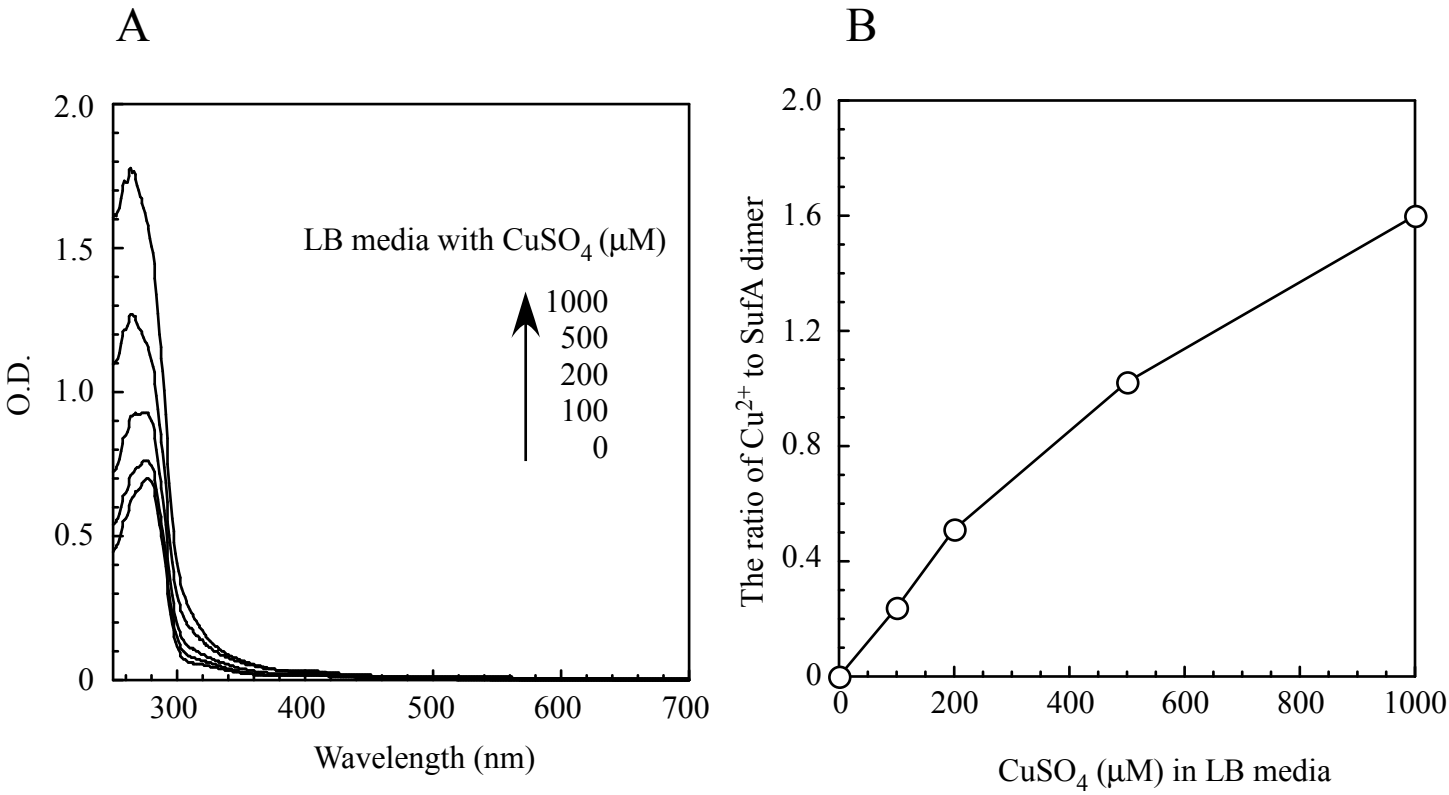
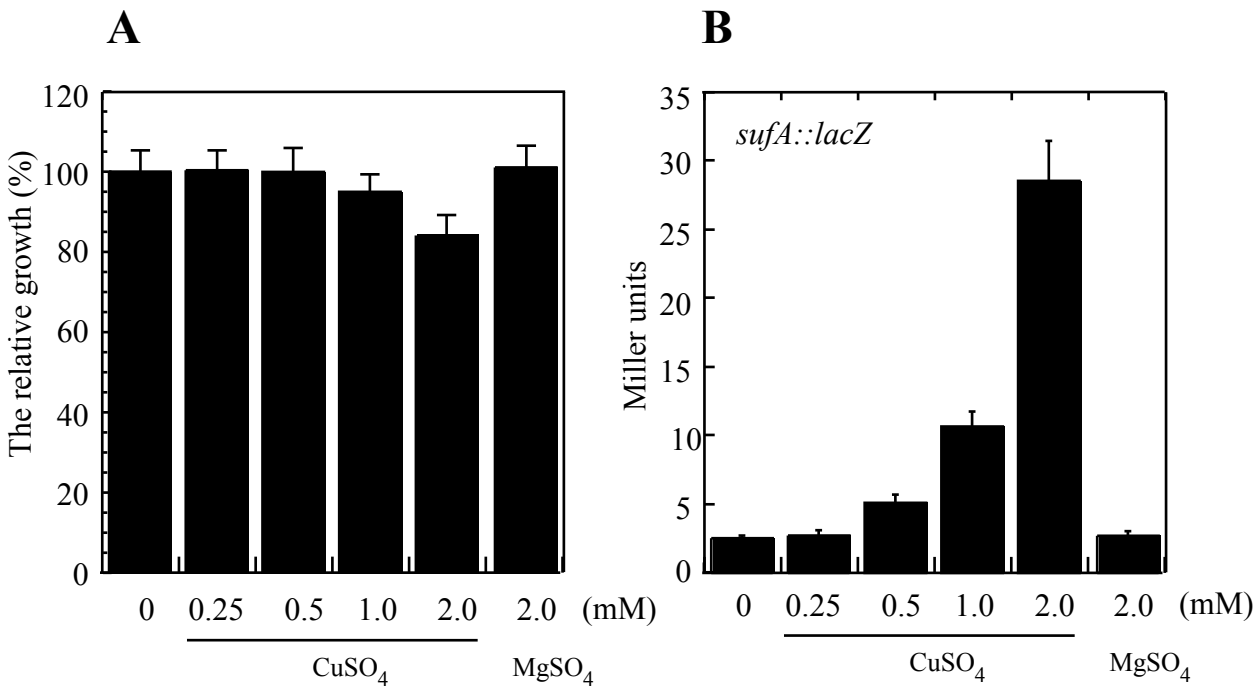
Supplementary Figure 1

Copper binding activity of SufA in *E. coli* cells. A), UV-visible absorption spectra of recombinant SufA purified from the *E. coli copA/cueO/cusA* mutant cells grown in LB media supplemented with 0, 100, 200, 500, and 1000 μM $CuSO_4$. **B)**, relative copper binding activity of SufA expressed in the *E. coli* cells. The copper content in purified SufA from A) was analyzed and plotted as a function of the $CuSO_4$ concentrations in LB media.



Supplementary Figure 2

Activation of *sufA::lacZ* operon by copper in *E. coli* cells. An *E. coli* strain SJ172 (MG1655 (*lacZ1::cat*)1 with *att*λ::[*pSJ501::sufA'-lac*+]~*cat*) (Jang & Imlay, 2010) was used for analyses of the activation of *sufA* promoter by copper. Overnight *E. coli* cells were diluted 1:100 in fresh LB media supplemented with the indicated concentrations of $CuSO_4$. Cells were grown at 37°C for 2 hours, and ß-galactosidase was assayed using o-nitrophenyl-ß-D-galactopyranoside (ONPG) as a substrate (Miller, 1972). **A),** cell growth in LB media with indicated concentrations of $CuSO_4$. **B)**, the ß-galactosidase activity was plotted as a function of $CuSO_4$ concentrations in LB media. The results are the averages plus standard deviations from three experiments.



References:

Jang, S. & J.A. Imlay, (2010) Hydrogen peroxide inactivates the *Escherichia coli* Isc iron-sulphur assembly system, and OxyR induces the Suf system to compensate. Molecular Microbiology 78: 1448-1467.

Miller, J.H., (1972) Experiments in Molecular Genetics. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.