**Supplementary Material**

1 Supplementary Figures and Tables

**Fig. S1** The differential survival of *C. elegans* under different levels of oxidative stress. (A) The survival of *C. elegans* under 0.001% (v/v) H$_2$O$_2$, 0.003% (v/v) H$_2$O$_2$ and 0.006% (v/v) H$_2$O$_2$ respectively. (B) The survival of *C. elegans* under 100 µM juglone, 200 µM juglone and 400 µM juglone respectively. * Indicates statistically significant differences at $p < 0.01$. 
The validation of primers about antioxidant genes ($pmk-1$, $skn-1$, $sek-1$ and $sod-3$) of *C. elegans*. 1. The cDNA templates come from *C. elegans* which fed 427 at a concentration of $10^9$ CFU/mL for two days after L4 stage. 2. The cDNA templates come from *C. elegans* which fed X13 at a concentration of $10^9$ CFU/mL for two days after L4 stage. 3. The cDNA templates come from *E. coli*. 4. The cDNA templates come from 427. 5. The cDNA templates come from X13. 6. The cDNA templates come from a mixture of *E. coli*, 427 and X13.
Fig. S3 Differential effects of LAB on the transcription of antioxidant genes of *C. elegans* whose surface were washed repeatedly before exposed to H$_2$O$_2$. H$_2$O$_2$: treatment with *E. coli* OP50 in the first two days and then exposed to H$_2$O$_2$ at the L4 stage of *C. elegans*. LAB: treatment with LAB in the first two days and then exposed to H$_2$O$_2$ at the L4 stage of *C. elegans*. * Indicates statistically significant differences at $p < 0.05$. 
Fig. S4 Differential effects of LAB on the transcription of antioxidant genes of *C. elegans* whose surface were washed repeatedly exposed to juglone. Juglone: treatment with *E. coli* OP50 in the first two days and then exposed to juglone at the L4 stage of *C. elegans*. LAB: treatment with LAB in the first two days and then exposed to juglone at the L4 stage of *C. elegans*. * Indicates statistically significant differences at $p < 0.05$. 