

**Curcumin attenuates doxorubicin-induced cardiotoxicity via
suppressing oxidative stress and preventing mitochondrial dysfunction
mediated by 14-3-3 γ**

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Supplementary materials

Fig. S1. Effects of Cur, pAD/14-3-3 γ -shRNA, pAD/scrRNAi, or a combination of Cur with pAD/14-3-3 γ -shRNA or pAD/scrRNAi on cell viability of cardiomyocytes unexposed to Dox, and effects of pretreatment with pAD/14-3-3 γ -shRNA or pAD/scrRNAi on cell viability of cardiomyocytes exposed to Dox. Cell viability did not change when using Cur alone (10 μ M), pAD/14-3-3 γ -shRNA alone, pAD/scrRNAi alone, Cur+pAD/14-3-3 γ -shRNA, and Cur+pAD/scrRNAi when compared with the control group ($p>0.05$), or by using pAD/scrRNAi+Dox compared with Dox group ($p>0.05$). However, the cell viability of pAD/14-3-3 γ -shRNA+Dox was lower when compared to that of Dox alone ($p<0.01$), indicating that 14-3-3 γ could alleviate Dox-induced injury of cardiomyocytes. Values are expressed as the mean \pm SEM for eight individual experiments. ** $p<0.01$ vs control group; $\blacktriangle\blacktriangle p<0.01$ vs Dox group.

Fig. S2. Effects of Cur, pAD/14-3-3 γ -shRNA, pAD/scrRNAi, or a combination of Cur with pAD/14-3-3 γ -shRNA or pAD/scrRNAi on LDH activities in culture media unexposed to Dox, and effects of pretreatment with pAD/14-3-3 γ -shRNA or pAD/scrRNAi on LDH activities in culture mediums exposed to Dox. The LDH activity did not change when using Cur alone (10 μ M), pAD/14-3-3 γ -shRNA alone, pAD/scrRNAi alone, Cur+pAD/14-3-3 γ -shRNA, and Cur+pAD/scrRNAi when compared with the control group ($p>0.05$), or by using pAD/scrRNAi+Dox when compared with the Dox group ($p>0.05$). However, the LDH activity of pAD/14-3-3 γ -shRNA+Dox was higher when compared to that of Dox alone ($p<0.01$). Values are expressed as the mean \pm SEM for eight individual experiments. ** $p<0.01$, vs control group; $\blacktriangle\blacktriangle p<0.01$ vs Dox group.

Fig. S3. Effects of Cur, pAD/14-3-3 γ -shRNA, pAD/scrRNAi, or a combination of Cur with pAD/14-3-3 γ -shRNA or pAD/scrRNAi on the expression of 14-3-3 γ of cardiomyocytes unexposed to Dox, and effects of pretreatment with pAD/14-3-3 γ -shRNA or pAD/scr RNAi on the expression of 14-3-3 γ of the cardiomyocytes exposed to Dox. The expression of 14-3-3 γ in cardiomyocytes was upregulated using Cur alone (10 μ M) and Cur+pAD/scrRNAi when compared with the control group ($p<0.01$). No changes were observed using pAD/scrRNAi+Dox when compared with the Dox group ($p>0.05$) or by using pAD/scrRNAi alone compared with the control group ($p>0.05$). However, the expression of 14-3-3 γ was significantly downregulated using pAD/14-3-3 γ -shRNA alone, Cur+pAD/14-3-3 γ -shRNA, and pAD/14-3-3 γ -shRNA+Dox when compared to that of the control group. From left to right, lane 1: Control; lane 2: Cur alone; lane 3: pAD/14-3-3 γ -shRNA alone; lane 4: pAD/scrRNAi alone; lane 5: Cur+pAD/14-3-3 γ -shRNA; lane 6: Cur+pADscr RNAi; lane 7: Dox; lane 8: pAD/14-3-3 γ -shRNA+Dox; lane 9: pAD/scrRNAi+Dox. Values are expressed as fold changes over the level of β -actin and are presented as the mean \pm SEM from five individual experiments. ** $p<0.01$, vs control group; $\blacktriangle\blacktriangle p<0.01$ vs Dox group.

Fig. S4. Effects of Cur, pAD/14-3-3 γ -shRNA, pAD/scrRNAi, or a combination of Cur with pAD/14-3-3 γ -shRNA or pAD/scrRNAi on the expression of p-Bad (S112) of cardiomyocytes unexposed to Dox, and effects of pretreatment with pAD/14-3-3 γ -shRNA or pAD/scrRNAi on the expression of p-Bad(S112) of cardiomyocytes exposed to Dox. The expression of p-Bad(S112) in cardiomyocytes was upregulated using Cur alone (10 μ M) and Cur+pAD/scrRNAi when compared with the control

group ($p < 0.01$). No changes were observed using pAD/scrRNAi+Dox when compared with the Dox group ($p > 0.05$) or by using pAD/scrRNAi alone compared with the control group ($p > 0.05$). However, the expression of p-Bad(S112) was significantly downregulated using pAD/14-3-3 γ -shRNA alone, Cur+pAD/14-3-3 γ -shRNA, and pAD/14-3-3 γ -shRNA+Dox when compared to that of the control group. From left to right, lane 1: Control; lane 2: Cur alone; lane 3: pAD/14-3-3 γ -shRNA alone; lane 4: pAD/scrRNAi alone; lane 5: Cur+pAD/14-3-3 γ -shRNA; lane 6: Cur+pADscrRNAi; lane 7: Dox; lane 8: pAD/14-3-3 γ -shRNA+Dox; lane 9: pAD/scrRNAi+Dox. Values are expressed as fold changes over the level of β -actin and are presented as the mean \pm SEM from five individual experiments. ** $p < 0.01$, vs control group; $\blacktriangle\blacktriangle p < 0.01$ vs Dox group.

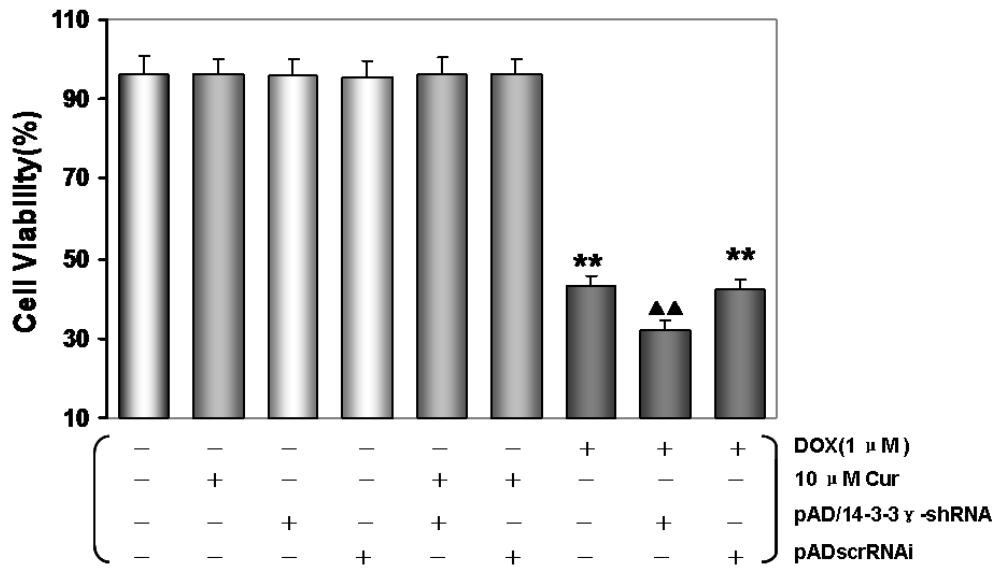


Fig. S1

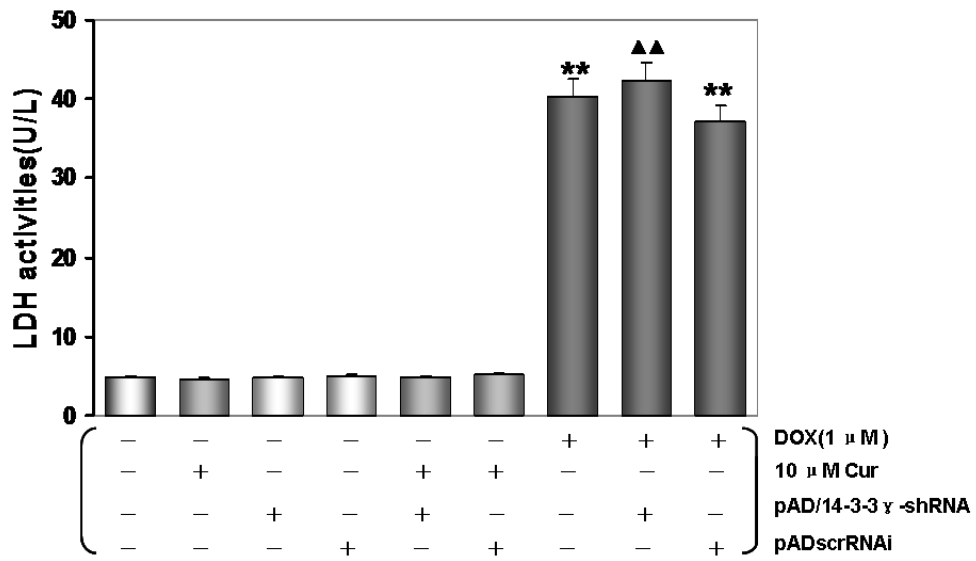


Fig. S2

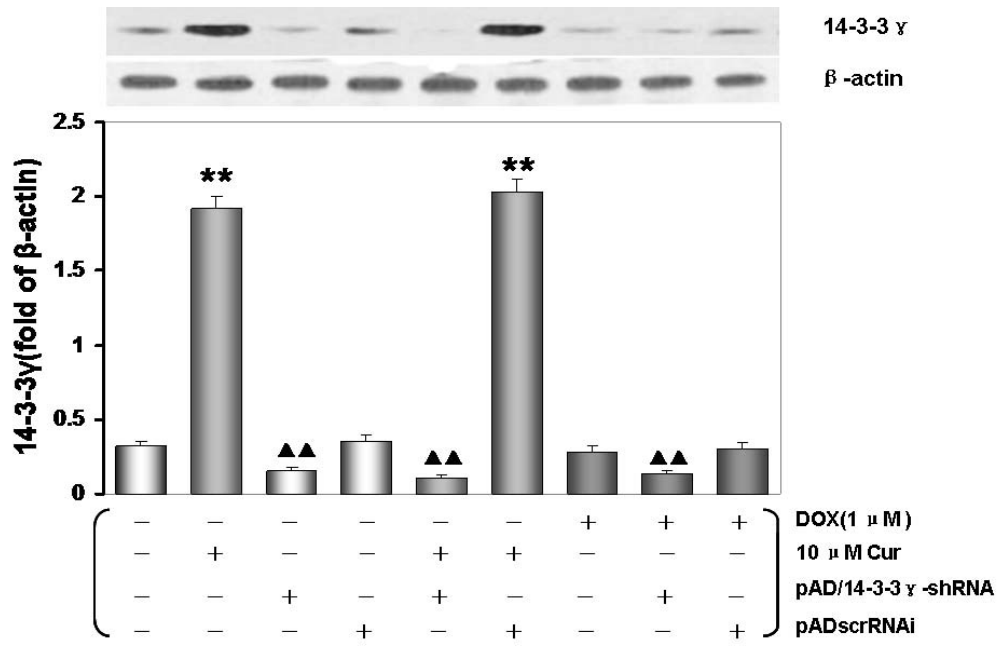


Fig. S3

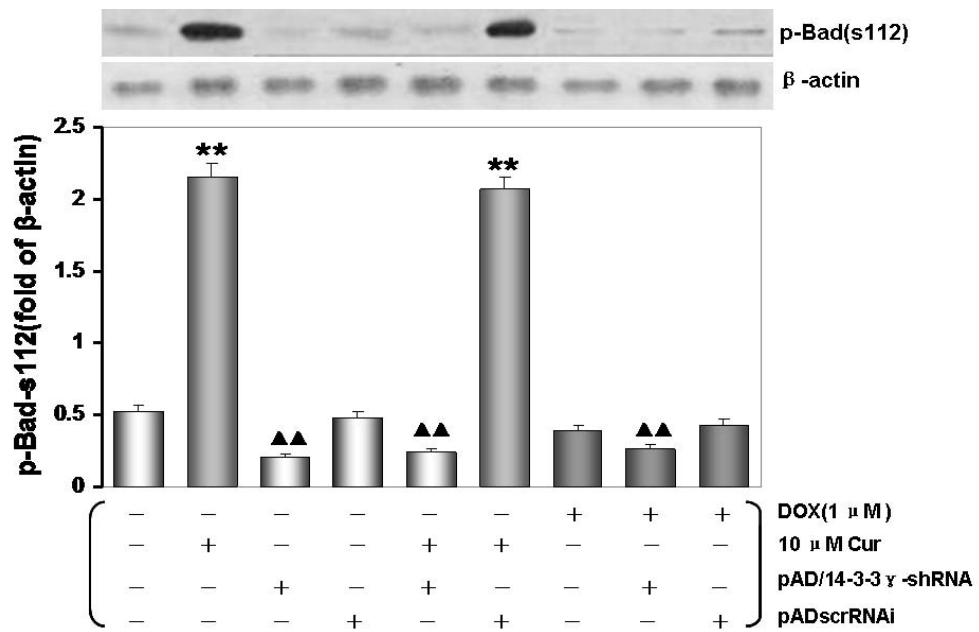


Fig. S4