Supplementary materials

Punicalagin, an active component in pomegranate, ameliorates cardiac

mitochondrial impairment in obese rats via AMPK activation

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**Running title:** AMPK activation by punical agin in hearts of obese rats

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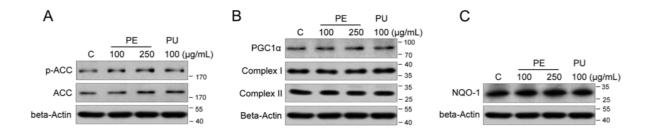
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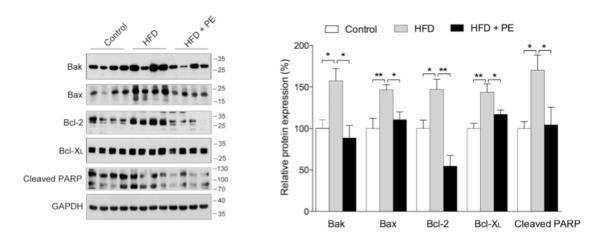
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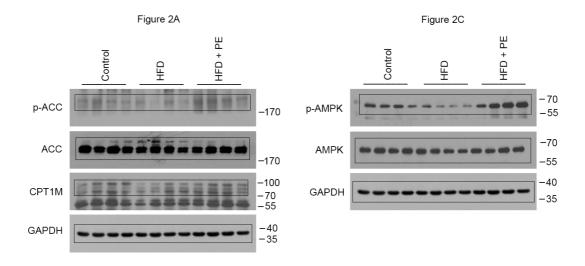
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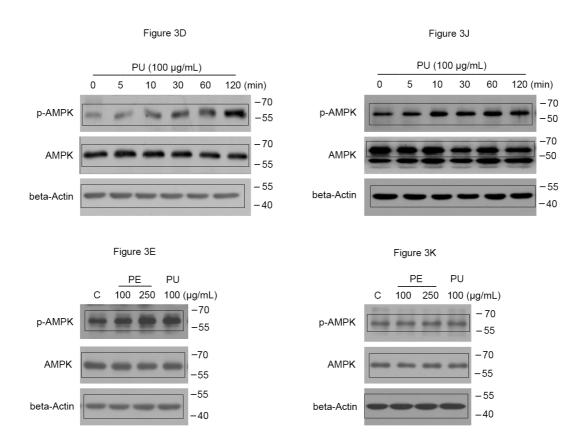
Supplementary Figure 1. Effects of PU and PE on AMPK pathway in neonatal cardiac fibroblasts. (A) Neonatal cardiac fibroblasts were treated with PE at 100, 250  $\mu$ g/mL and PU at 100  $\mu$ g/mL for 2 h, p-ACC and ACC was analyzed by western blot. Neonatal cardiac fibroblasts were treated with PE at 100, 250  $\mu$ g/mL and PU at 100  $\mu$ g/mL for 24 h, mitochodnrial biogenesis related PGC-1 $\alpha$ , complex I, II (B), and phase II enzyme NQO-1 (C) was analyzed by western blot.



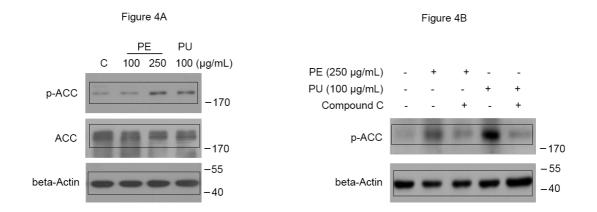
Supplementary Figure 2. PE and HFD on cardiac apoptosis pathway. SD rats in the HFD groups were administered either saline or PE (150 mg/kg/day) for 8 weeks. Protein samples were prepared from heart tissue. Proteins in apoptosis pathway were analyzed by western blot (A: blot image; B: arbitrary unit analysis). The values are presented as the means  $\pm$  S.E.M. (n  $\geq$ 8); \*p<0.05, \*\*p<0.01.



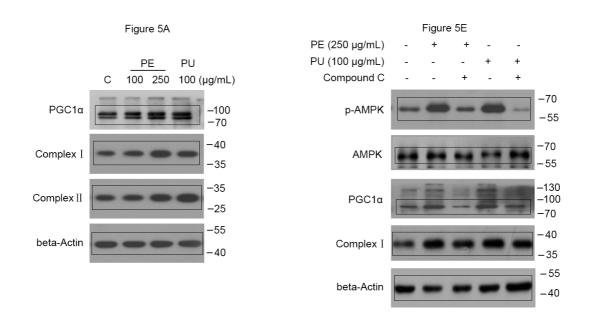
**Supplementary Figure 3.** Uncropped Western blots to the corresponding figures. Molecular weight makers are indicated in KDa.



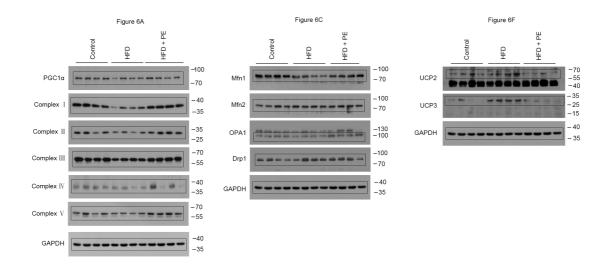
**Supplementary Figure 4.** Uncropped Western blots to the corresponding figures. Molecular weight makers are indicated in KDa.



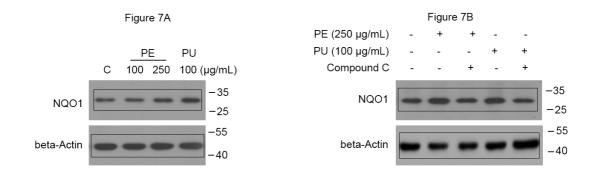
Supplementary Figure 5. Uncropped Western blots to the corresponding figures. Molecular weight makers are indicated in KDa.



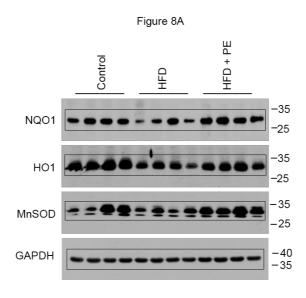
Supplementary Figure 6. Uncropped Western blots to the corresponding figures. Molecular weight makers are indicated in KDa.



**Supplementary Figure 7. Uncropped Western blots to the corresponding figures.** Molecular weight makers are indicated in KDa.



Supplementary Figure 8. Uncropped Western blots to the corresponding figures. Molecular weight makers are indicated in KDa.



**Supplementary Figure 9. Uncropped Western blots to the corresponding figures.** Molecular weight makers are indicated in KDa.