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Erratum
A novel AMPK activator from Chinese herb medicine and ischemia phosphorylate the cardiac transcription factor FOXO3: Int J Physiol Pathophysiol Pharmacol 2009; 1: 116-126

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Abstract: Oleanolic Acid (OA) is a nature product extracted from Chinese Herb Medicine which is traditionally used as treatment of diabetes and ischemic heart diseases. Mounting evidence showed that AMP-activated protein kinase (AMPK) has cardioprotective effect against ischemic injury and the forkhead transcription factor 3 (FOXO3) was recently identified as a downstream target of AMPK. We hypothesize that OA may protect against ischemic dysfunction of cardiomyocytes via activation of AMPK signaling pathway. Male C57BL/6 mice which were subjected to *in vivo* regional cardiac ischemia stimulated AMPK Thr172 phosphorylation, as well as phosphorylation of downstream FOXO3 (Ser413) and acetyl CoA carboxylase (ACC). The natural product, OA, significantly stimulated cardiac AMPK activation in cardiomyocyes in time- and dose-dependent manners. The mechanism of AMPK activation by OA may be due to the loss mitochondrial membrane potential ($\Delta\Psi m$) as shown by JC-1 fluorescence assay. Intriguingly, OA as an AMPK activator also triggered FOXO3 (Ser413) phosphorylation in cardiomyocytes. Furthermore, OA treatment can protect cardiomyocytes from contractile dysfunction induced by hypoxia. Taken together, the results indicated that both ischemia and OA stimulated cardiac AMPK phosphorylation, as well downstream FOXO3 phosphorylation. The cardioprotective effect of OA maybe associated with activation of AMPK signaling pathways.

Keywords: AMP-activated protein kinase (AMPK), ischemia, forkhead transcription factor 3 (FOXO3), oleanolic acid (OA)

In this paper, **Figure 3A** contained an error, which is corrected in Figure below. The panel A of **Figure 3** shows the Western blotting result of OA stimulating AMPK activation in cardiomyocytes. A wrong panel of AMPKα was used for **Figure 3A** (upper left panel) during the manuscript preparation. The wrong panel has been replaced in the new figure as shown below. We apologize for any inconvenience occurred. This change does not affect the conclusions of the paper.

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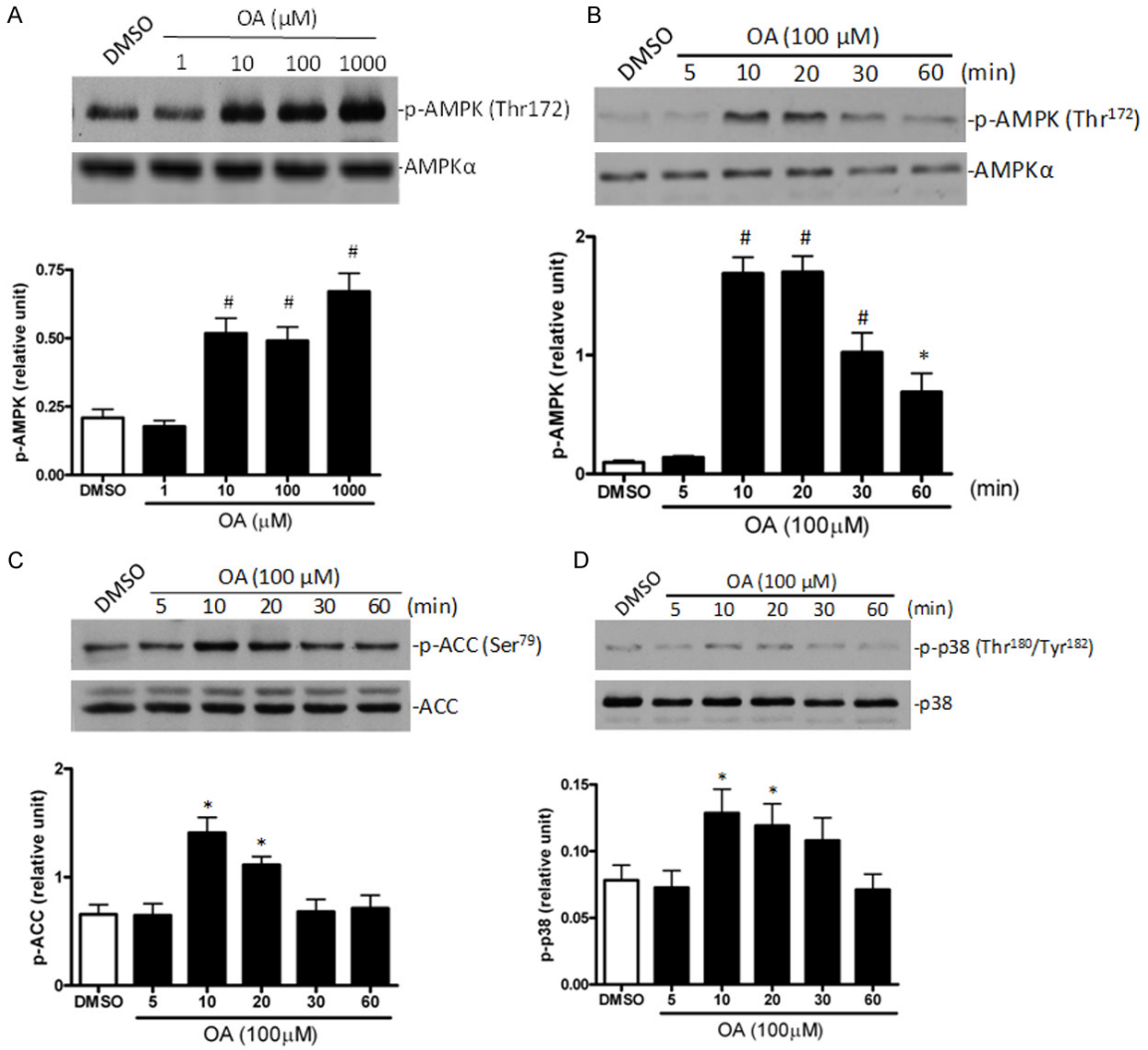

Figure 3. OA activated AMPK signaling pathway in isolated mouse cardiomyocytes. OA stimulated AMPK phosphorylation in (A) dose-dependent and (B) time-dependent manner. Phosphorylation of (C) ACC (Ser79) and (D) p38 MAPK (Thr180/Tyr182) were activated by OA in time dependent manner. Values are means ± SE (n=3). #p<0.01 vs. control (DMSO); *p<0.05 vs. control (DMSO).