

Antioxidant Systems Enhancing Potential of Ingredient of PHYTOCEE®: *Emblca officinalis*

OBJECTIVE

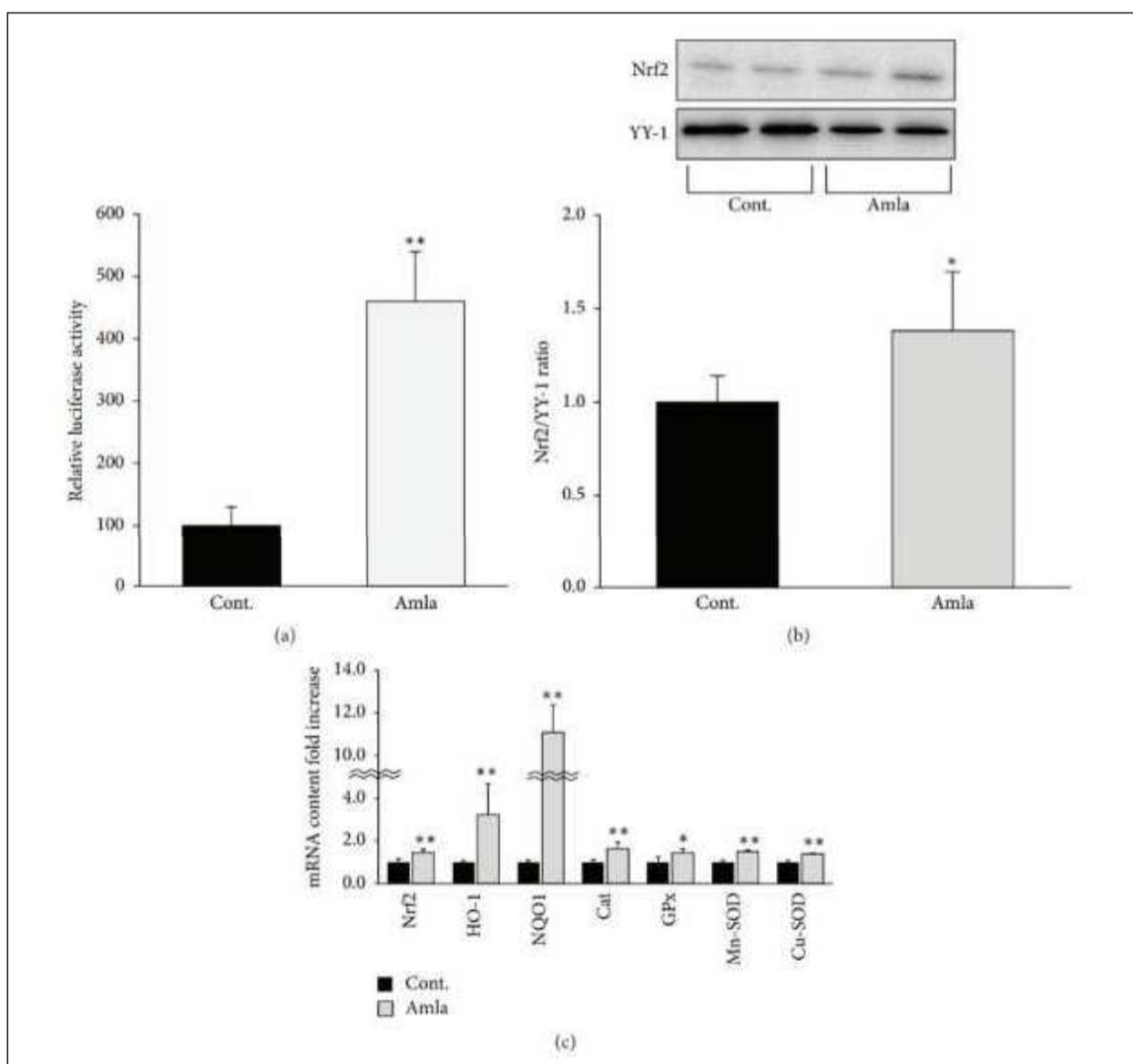
To investigate the effects of water extract of Amla (*Emblca officinalis*) fruits on antioxidant systems.

MATERIALS AND METHODS

C2C12 myoblasts cell culture was used. For Amla treatment, Amla stock solution was diluted to final concentrations of 100 g/mL and 200 g/mL. The antioxidant response element (ARE) luciferase assay was performed using standardized cell line assay protocols.

RESULTS

Amla treatment stimulated antioxidant systems by Nrf2 activation. (a) Activation of Nrf2 was analyzed using an ARE luciferase assay. Data are expressed as relative activities (reporter luciferase activity/control luciferase activity) as compared with data from control cells. $**p < 0.01$; $n=5$. (b and c) C2C12 myotubes were incubated with Amla (200 g/mL) for 48 h. (b) Nuclear lysates were analyzed by western blot, and YY-1 was used an internal control for nuclear protein. $*p < 0.05$; $n=6$. (c) Relative levels of mRNA for antioxidant system related genes were analyzed by RT-qPCR. $*p < 0.05$; $**p < 0.01$; $n=5$. 18S rRNA was used as an internal control for RT-qPCR.



CONCLUSIONS

This study findings revealed that Amla treatment stimulated antioxidant systems, accompanied by Nrf2 activation.

Reference:

Yamamoto H, Morino K, Mengistu L *et al.* Amla Enhances Mitochondrial Spare Respiratory Capacity by Increasing Mitochondrial Biogenesis and Antioxidant Systems in a Murine Skeletal Muscle Cell Line. *Oxid Med Cell Longev.* 2016;2016:1735841.