



Effects of Apigenin on the expression of antioxidant enzymes in Soleus and FDB muscle in animal model

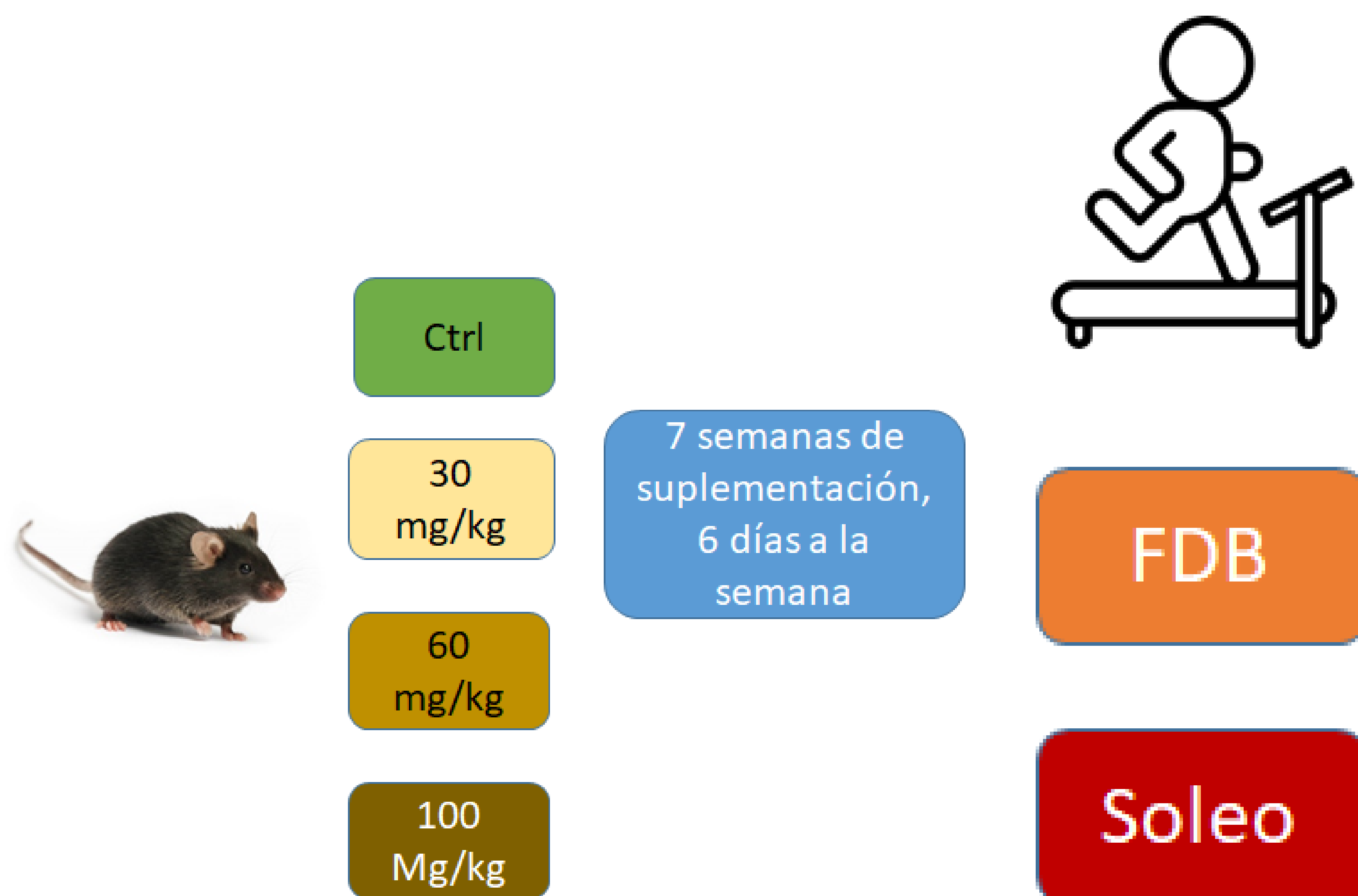
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Summary

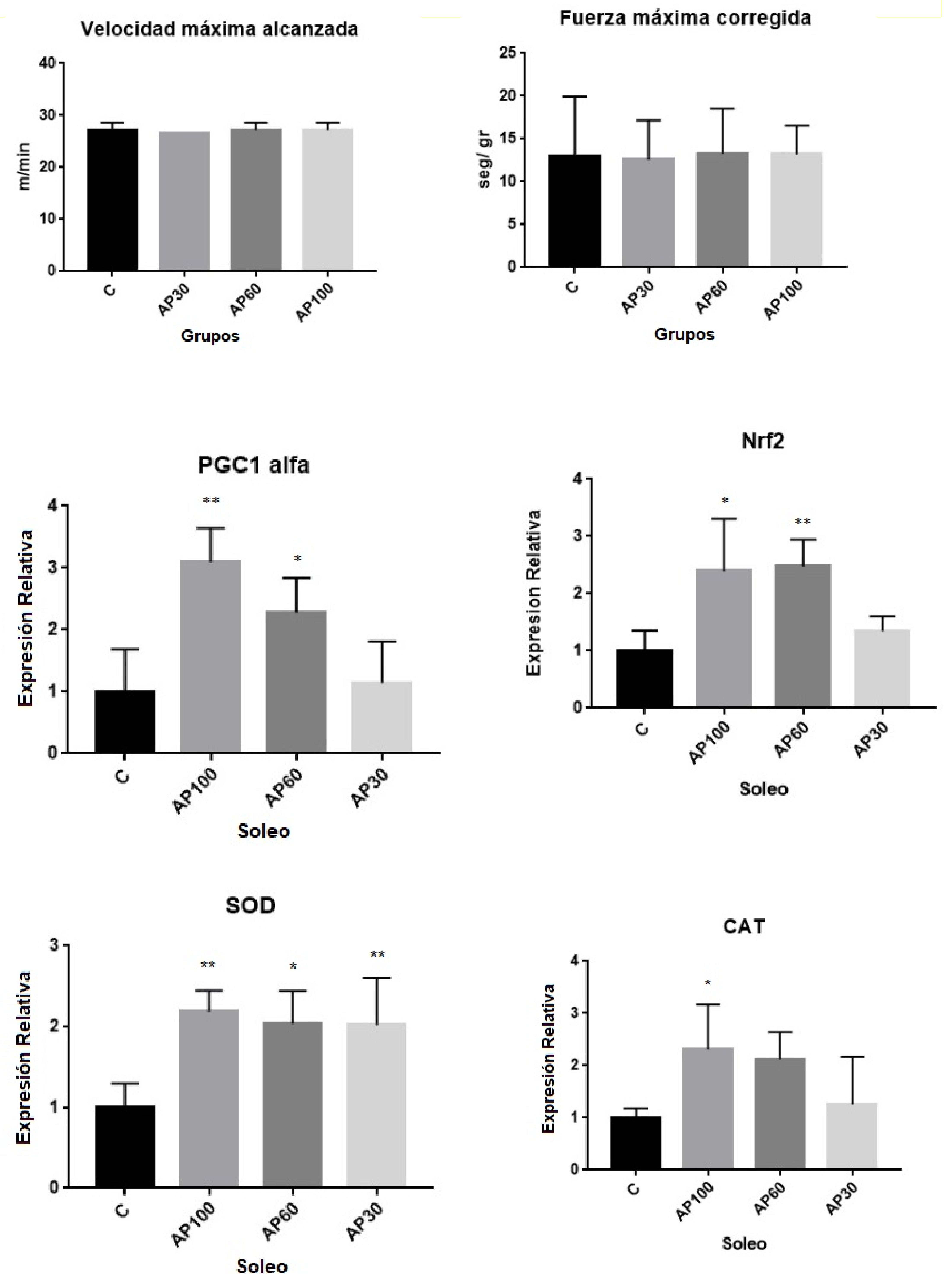
In today's Western society, an attempt has been made to enhance the beneficial effects of exercise in its preventive role of metabolic pathologies associated with oxidative stress through the use of various nutritional supplements, and thus obtain the adaptations generated by physical exercise at the level of Physiological and cellular with a shorter training time or doing exercises with lower intensities. Known as 'indirect' antioxidants, they have a signaling pathway like exercise since they induce low levels of reactive oxygen species (EROS). In particular, the flavonoid Apigenin has been shown to improve antioxidant defense in models of pathologies associated with oxidative stress and in models of healthy subjects through the PGC-1 α / Nrf2 pathway^{1,2}. However, its role in physical exercise has not been analyzed.

Objective: To evaluate the effect of Apigenin's different doses on the expression of the PGC-1 α / Nrf2 pathway and antioxidant enzymes in an animal model.



Results: After supplementation, significant increases were observed in a dose-dependent manner in the soleus muscle of PGC-1 α , Nrf2, Catalase and Super Oxide Dismutase. No significant changes were observed in FDB muscle or in physical condition.

Conclusions: Apigenin improves the expression of antioxidant enzymes via PGC1 α / Nrf2 in Soleus muscle, but it does not generate significant changes in FDB muscle or mice's physical condition supplemented for seven weeks.



References:

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2. Andueza A, García-Garzón A, Ruiz De Galarreta M, et al. Oxidation pathways underlying the pro-oxidant effects of apigenin. *Free Radic Biol Med.* 2015;87:169-180. doi:10.1016/j.freeradbiomed.2015.06.003