Effects of D-003 (Sugarcane Wax Acids) on the Physical Exercise on Static Bicycle Test

Pablo PÉREZ ¹, José ILLNAIT ^{1*}, Lilia FERNÁNDEZ ², Meylis MESA ¹, Julio FERNÁNDEZ ², Rafael GÁMEZ ², Rosa MAS ², Mainel GÓMEZ ³, Dalmer RUIZ ³, & Yunaisi JARDINES ³

 ¹ Medical Surgical Research Centre, ² Centre of Natural Products,
³ Software and Database Group Centre of Natural Products, National Centre for Scientific Research (CNIC), Ave 25 and 158, P.O 6880, Cubanacán, Havana City, Cuba

SUMMARY. Physical inactivity and low maximal exercise oxygen consumption (VO2max) are predictors of mortality and coronary events in adults, respectively. Lowering serum cholesterol and platelet aggregation benefits cardiovascular function in aging persons. D-003, a mixture of sugarcane wax acids, exhibits antiplatelet and cholesterol-lowering effects, and could benefit the performance of middle-aged and older subjects in effort tests. This randomised, double-blinded, placebo-controlled study investigated the effects of D-003 (10 mg/day) for 12 weeks on the effort test in the static bicycle and the health status of 50 subjects (50-70 years old). Compared with baseline and placebo, D-003 improved significantly VO_{2 max} values, pain/discomfort and health perception EuroQoL scores, and the cardiovascular capacity assessed by the Specific Activity Scale. Also, D-003 displayed cholesterol-lowering effects versus placebo, being well tolerated. There were no study withdrawals. Concluding, D-003 improved VO_{2 max} values in the effort test, lipid profile, health perception and cardiovascular status of study subjects.

KEY WORDS: D-003, Lipid-lowering effects, Physical fitness, Static bicycle, Sugarcane wax acids, VO2max.

* Author to whom correspondence should be addressed. *E-mail:* jose.illnait@cnic.edu.cu