



Effects Of D-003, a Mixture of High-Molecular Weight Aliphatic Acids from Sugarcane Wax, and Omega-3 Fatty Acids on Bones of Ovariectomized Rats

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SUMMARY. D-003 is a mixture of higher fatty acids purified from sugarcane wax with antiosteoporotic effects in ovariectomized (ovx) rats. Omega-3 fatty acids (Ω -3FA) have shown bone-protective effects. This study compared the effect of D-003 and Ω -3 FA on bones of ovx rats. Rats were randomized into 4 groups: one false-operated and three ovx groups: a positive control treated orally with the vehicle, one with D-003 (50 mg/kg) and other with Ω -3FA (160 mg/kg) for 3 months. Ovariectomy decreased trabecular volume, number and thickness in the fifth vertebrae, distal femur and femur neck, and increased trabecular separation, osteoclast number and surface *versus* the false-operated group. D-003 and Ω -3 FA prevented all changes induced by ovariectomy, but the effects of D-003 were significantly greater than those of Ω -3FA. Concluding, D-003 (50 mg/kg) and Ω -3FA (160 mg/kg) prevented osteoporotic changes in ovx rats, but D-003 was more effective than the Ω -3FA preparation assayed.

KEY WORDS: Bones, D-003, Histomorphometry, Omega-3 fatty acids, Osteoporosis, Ovariectomized rats.

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