



Effects of D-002 (Beeswax Alcohols) on Gastrointestinal Symptoms and Oxidative Markers in Middle-Aged and Older Subjects

José ILLNAIT¹, Iván RODRÍGUEZ¹, Vivian MOLINA², Sarahi MENDOZA², Rosa MAS², Lilia FERNANDEZ², Ambar OYARZÁBAL², Yohani PÉREZ², Meilis MESA², Julio FERNÁNDEZ², Rafael GÁMEZ², Sonia JIMENEZ², Dalmer RUIZ³ & Yadira CRUZ³

¹ *Surgical Medical Research Centre, Havana, Cuba*

² *Centre of Natural Products, National Centre for Scientific Research, Havana, Cuba*

³ *Software group, National Centre for Scientific Research, Havana, Cuba*

SUMMARY. This study investigated the persistence and coexistence of the effects of D-002, a mixture of higher aliphatic beeswax alcohols with antioxidant and gastroprotective effects, on symptoms and plasma oxidative markers in subjects with gastrointestinal complaints. Sixty subjects were double-blinded randomized to D-002 (50 mg) or placebo tablets twice daily for 24 weeks. Dose was titrated to three tablets daily if symptoms, assessed with the Gastrointestinal Symptom Rating Scale (GSRS), did not improve after 6 weeks. No significant changes occurred in placebo. D-002 persistently reduced ($p < 0.001$) GSRS overall score and several sub-scores versus placebo. Dose-titration (1/30) and antacids intake (7/30) with D-002 were less frequent ($p < 0.001$) than with placebo (29/30 and 28/30, respectively). D-002 persistently decreased ($p < 0.00001$) total hydroperoxides, ($p < 0.001$) plasma malondialdehyde and sulphhydryl groups, while increased ($p < 0.01$) plasma total antioxidant status. Summarizing, D-002 (100 mg/day) administered for 24 weeks displayed persistent antioxidant and gastroprotective effects in subjects with gastrointestinal complaints.

KEY WORDS: Antioxidant, Beeswax alcohols, D-002, Gastrointestinal symptoms, GSRS.

* Author to whom correspondence should be addressed. *E-mail:* clinica@enet.cu