Latin American Journal of Pharmacy
(formerly *Acta Farmacéutica Bonaerense)*
Lat. Am. J. Pharm. **30** (4): 759-64 (2011)

Original Article
Received: February 17, 2010
Revised version: Octobre 8, 2010
Accepted: October 11, 2010

Antibacterial Activity of Two Pregnenolone-Derivatives against *Vibrio cholerae* and *Escherichia coli* and its Relationship with Descriptors *LogP*, Π

Lauro FIGUEROA [1]*, Francisco DÍAZ [2], Maria LÓPEZ [1],
Abelardo CAMACHO [3], Elodia GARCIA [1] & Rolando OZAETA [1]

[1] Universidad Autónoma de Campeche, Agustín Melgar s/n entre Juan de la Barrera y C-20, Col Bellavista C.P. 24039 Campeche Cam., México.
[2] Escuela de Ciencias Biológicas del IPN. Plan de San Luís y Díaz Mirón s/n Col. Santo Tomas, México, D.F. C.P. 11340.
[3] Facultad de Medicina de la Universidad Juárez del Estado de Durango, es Av. Fanny Anitua s/n Esq. Av. Universidad. C.P. 34000, Durango, Dgo., México.

SUMMARY. **In this work the antibacterial activity of two pregnenolone-derivatives was evaluated on *V. cholerae* and *E. coli,* using a NCCLS broth dilution modified method. Additionally, to delineate the structural chemical requirements of the steroid derivatives as antibacterial agents on *E. coli* and *V. cholerae,* other parameters such as the physicochemical descriptors *LogP* and π were calculated. The results obtained indicate that bacterial growth of *E. coli* and *V. cholerae* was inhibited with pregnenolone-vitamin B1 (MIC = 6.64. x 10^{-4} mmol/mL) and pregnenolone-carbamazepine (MIC = 3.18 x 10^{-4} mmol/mL). Other results showed an increase in *LogP* and π values in the carbamazepine-pregnenolone conjugate with respect to pregnenolone-vitamin B1. These results suggest that antibacterial activity of two pregnenolone-conjugates can depend of the nature of functional groups involved in their chemical structure that seems to be the key required for their antibacterial activity.**

KEY WORDS: E. coli, Pregnenolone-carbamazepine, Pregnenolone-vitamin B1, *V. cholerae*.

* Author to whom correspondence should be addressed. *E-mail:* lauro_1999@yahoo.com