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

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**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*.

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