

Accepted Manuscript

Title: 16-Membered Macrolide Antibiotics: a Review

Author: Biljana Arsic, Jill Barber, Ana Čikoš, Milan Mladenovic, Nevena Stankovic, Predrag Novak

PII: S0924-8579(17)30238-8

DOI: <http://dx.doi.org/doi: 10.1016/j.ijantimicag.2017.05.020>

Reference: ANTAGE 5178

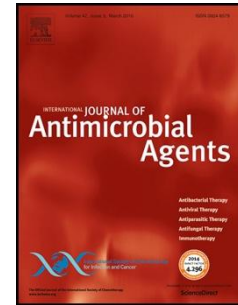
To appear in: *International Journal of Antimicrobial Agents*

Received date: 24-12-2016

Accepted date: 25-5-2017

Please cite this article as: Biljana Arsic, Jill Barber, Ana Čikoš, Milan Mladenovic, Nevena Stankovic, Predrag Novak, 16-Membered Macrolide Antibiotics: a Review, *International Journal of Antimicrobial Agents* (2017), <http://dx.doi.org/doi: 10.1016/j.ijantimicag.2017.05.020>.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



1 **16-Membered Macrolide Antibiotics: a Review**

2 Biljana Arsic^{1*}, Jill Barber¹, Ana Čikoš², Milan Mladenovic³, Nevena Stankovic³, Predrag
3 Novak⁴

4 ¹ *Division of Pharmacy and Optometry, University of Manchester, Oxford Road, M13 9PT,*
5 *Manchester, United Kingdom*

6 ² *Fidelta, Ltd., Prilaz baruna Filipovića 29, 10000 Zagreb, Croatia*

7 ³ *Kragujevac Center for Computational Biochemistry, Faculty of Science, University of*
8 *Kragujevac, Radoja Domanovića 12, 34000 Kragujevac, P.O. Box 60, Serbia*

9 ⁴ *Department of Chemistry, Faculty of Natural Science, University of Zagreb, Croatia*

10 *Corresponding author: e-mail: ba432@ymail.com

11

12 **Highlights**

- 13 • 16-membered macrolides show advantages over 14- and 15-erythromycin-based
14 cousins.
15 • They show anti-malarial activity.
16 • Special emphasis was on the most explored members: tylosin A and josamycin.

17

18 **Abstract**

19 Mainly used in veterinary medicine, the 16-membered macrolide antibiotics (e.g. tylosin A
20 and josamycin) are much less studied than their 14- and 15-membered erythromycin-based
21 cousins. Even though they share similar antibacterial profile (they are active primarily against
22 Gram-positive and a limited range of Gram-negative organisms), the 16-membered
23 macrolides show some advantages, including better gastrointestinal tolerance, lack of drug-
24 drug interactions and activity against some resistant strains **with additional interactions by**
25 **extending the peptide tunnel reach**. In addition to the antibacterial activity, the most famous
26 representative of the class, tylosin A, as well as some derivatives of desmycosin (tylosin B),
27 have been shown to possess anti-malarial **activity (also observed in 14-membered macrolide**
28 **antibiotics, azithromycin, solithromycin and clindamycin)**, thus providing the opportunity to
29 investigate these drugs as cheap and effective anti-malarials. This is an overview of the

Download English Version:

<https://daneshyari.com/en/article/8738598>

Download Persian Version:

<https://daneshyari.com/article/8738598>

[Daneshyari.com](https://daneshyari.com)