Review Article

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Multidrug-Resistant *Streptococcus pneumoniae* Infections

Current and Future Therapeutic Options

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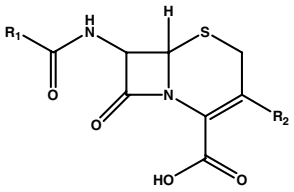
Supplementary Material

This supplementary material contains the figures referred to in the full version of this article, which can be found at http://drugs.adisonline.com.

Figure 1. Chemical structures of reference cephalosporins and of derivatives in development that are characterised by a high *in vitro* activity towards *S. pneumoniae.*



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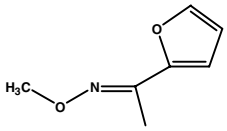
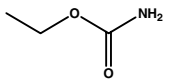
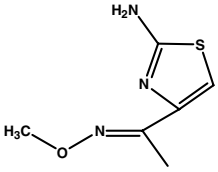
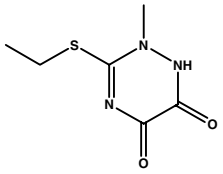
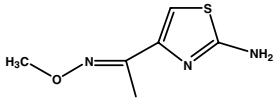
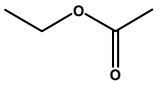
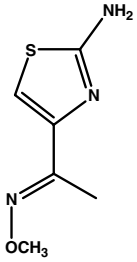
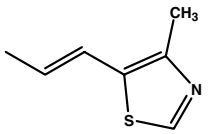
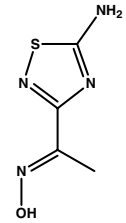
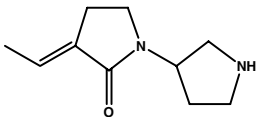
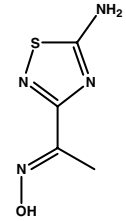
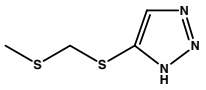
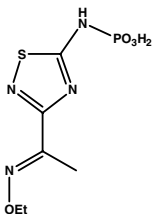
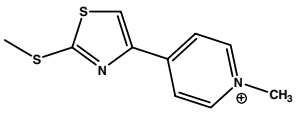
cefuroxime		
ceftriaxone		
cefotaxime		
cefditoren		
ceftobiprole		
cefmatilen		
ceftaroline		

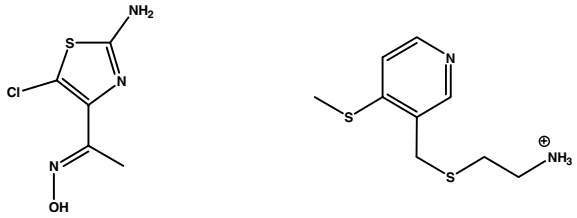
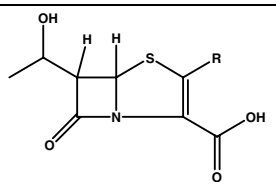
RWJ-54428	

Figure 2. Chemical structures of a reference carbapenem and of derivatives in development that are characterised by a high *in vitro* activity towards *S. pneumoniae.*



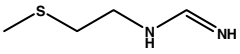
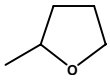
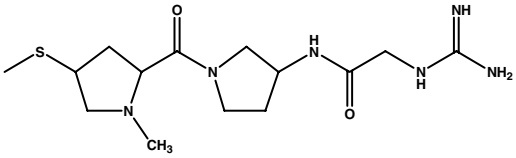
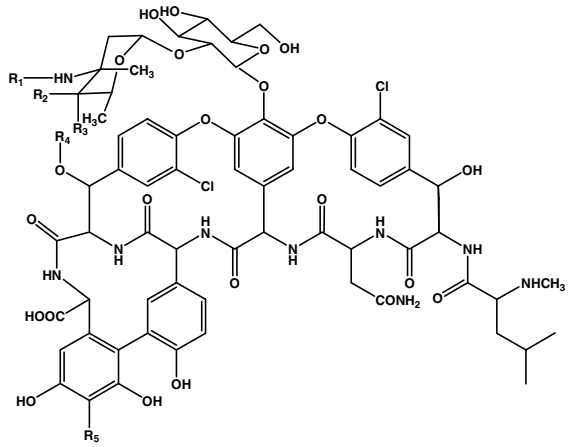
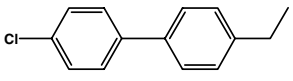
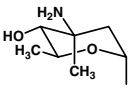
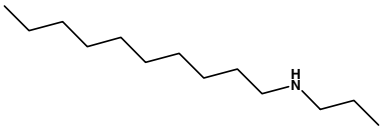
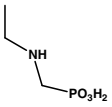
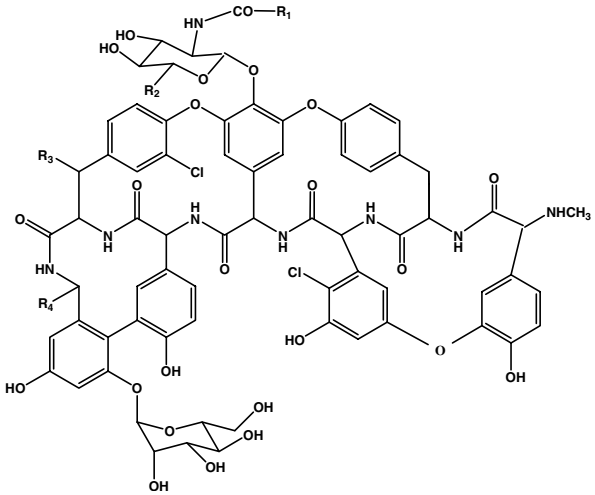
drug	-R
imipenem	
faropenem	
CS-023	

Figure 3. Chemical structures of reference glycopeptides and of derivatives in development that are characterised by a high *in vitro* activity towards *S. pneumoniae.*



drug	-R_1	-R_2	-R_3	-R_4	-R_5
vancomycin	-H	-OH	-H	-H	-H
oritavancin		-H	-OH		-H
telavancin		-OH	-H	-H	



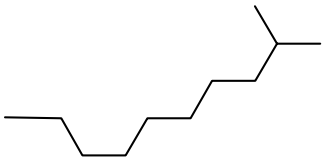
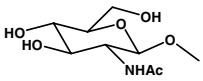
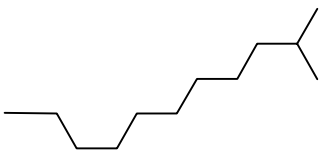
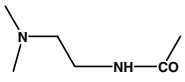
	-R_1	-R_2	-R_3	-R_4
teicoplanin		-CH_3OH		-COOH
dalbavancin		-COOH	-OH	

Figure 4. Chemical structures of a reference ketolide and of derivatives in development that are characterised by a high *in vitro* activity towards *S. pneumoniae.*

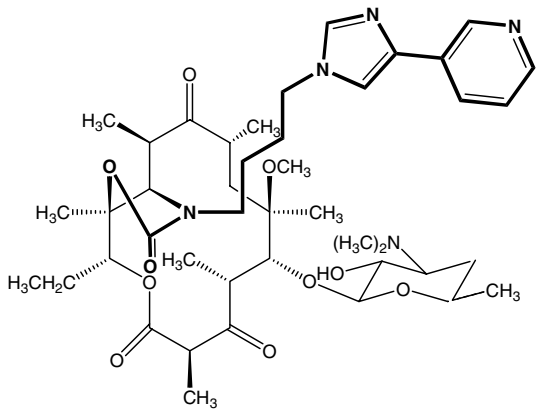
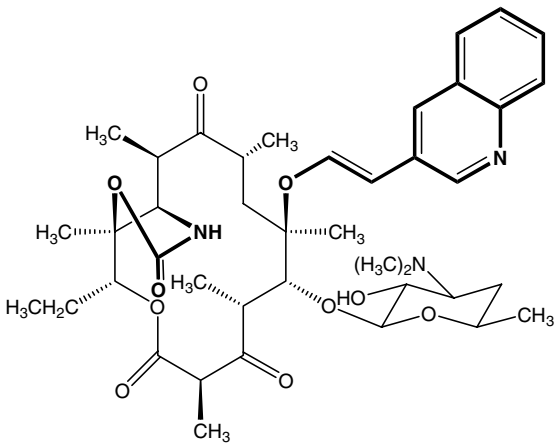
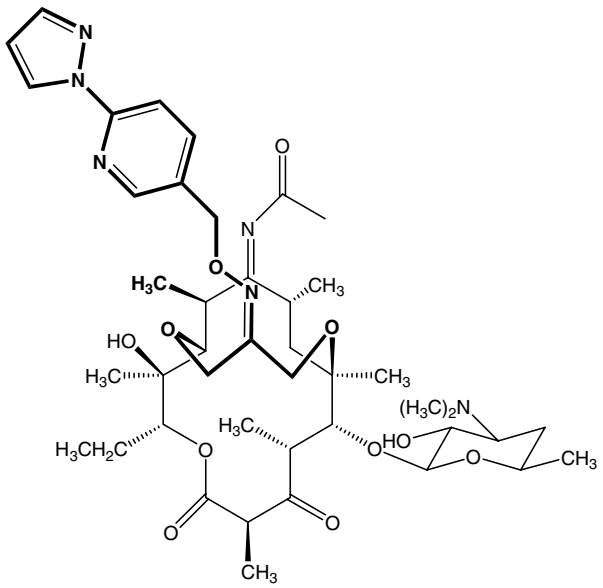
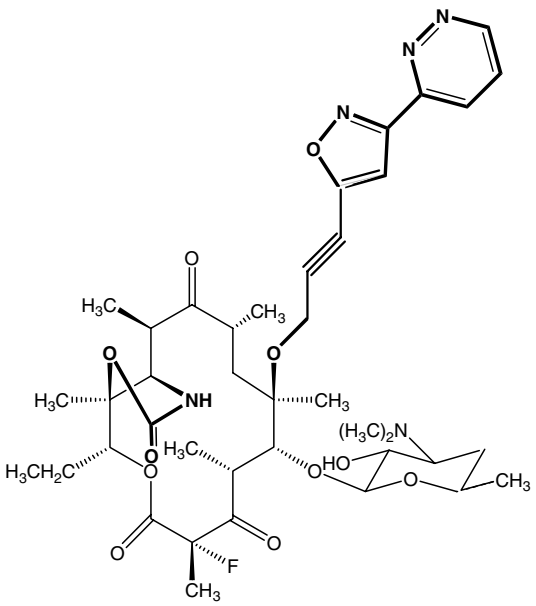
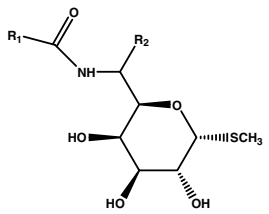
	
telithromycin	cethromycin
	
EDP-420	FMA-1485

Figure 5. Chemical structures of a reference lincosamide and of a derivative in development that is characterised by a high *in vitro* activity towards *S. pneumoniae.*



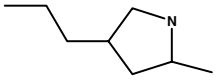
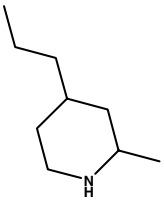
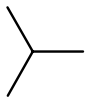
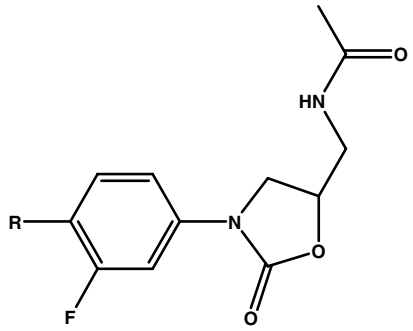
drug	-R_1	-R_2
clindamycin		
VIC105555		

Figure 6. Chemical structures of a reference oxazolidinone and of a derivative in development that is characterised by a high *in vitro* activity towards *S. pneumoniae.*



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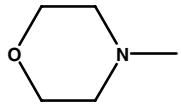
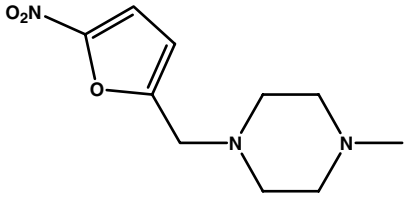
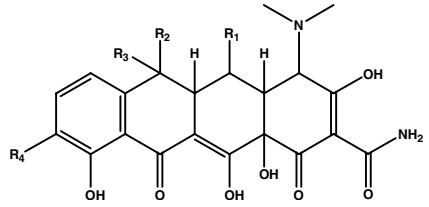
linezolid	
ranbezolid	

Figure 7. Chemical structures of reference tetracyclines and of derivatives in development that are characterised by a high *in vitro* activity towards *S. pneumoniae.*



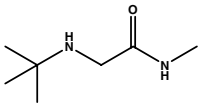
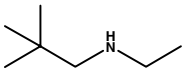
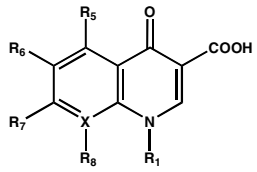
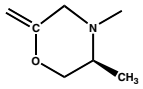
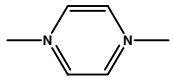
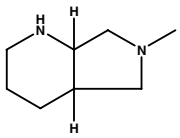
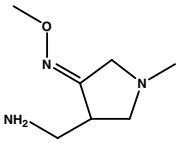
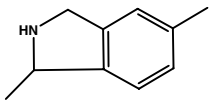
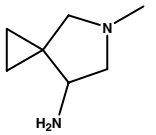
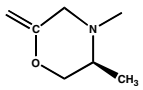
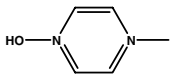
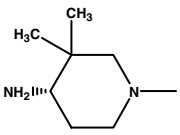
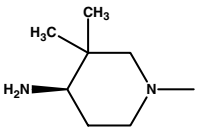
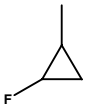
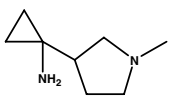
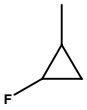
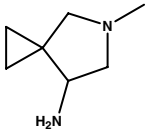
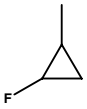
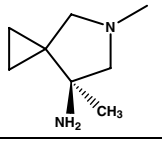
drug	$-R_4$	$-R_3$	$-R_2$	$-R_1$
tetracycline	-H	-OH	-H	-H
doxycycline	-H	$-CH_3$	-H	-OH
tigecycline		-H	$-N(CH_3)_2$	$-CH_3$
PTK-0796		-H	$-N(CH_3)_2$	$-CH_3$

Figure 8. Chemical structures of reference quinolones and of derivatives in development that are characterised by a high *in vitro* activity towards *S. pneumoniae.*



drug	X	-R_8	-R_1	-R_5	-R_6	-R_7
levofloxacin				-H	-F	
moxifloxacin	C	-O-CH_3		-H	-F	
gemifloxacin	N			-H	-F	
garenoxacin	C	-O-CHF_2		-H	-H	
sitafloxacin	C	-Cl		-H	-F	
WCK-771				-H	-F	
WCK-1152	C	-O-CH_3		-H	-F	
WCK-1153	C	-O-CH_3		-H	-F	
DX-619	C	-O-CH_3		-H	-F	
DK-507k	C	-O-CH_3		-H	-F	
DC-159a	C	-O-CH_3		-H	-F	

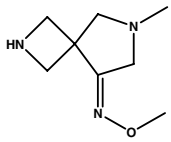
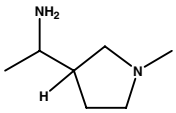
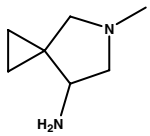
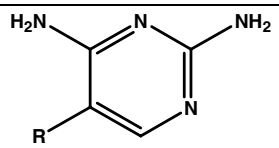
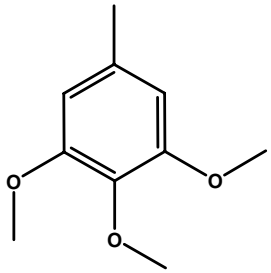
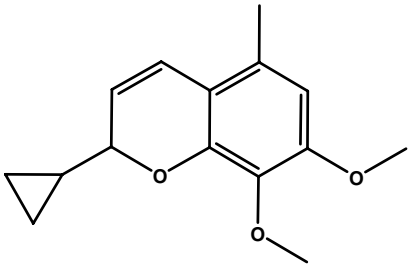
DW-224a	N			-H	-F	
PGE 9262932	C	-O-CH_3		-H	-F	
olamufloxacin	C	-CH_3		-NH_2	-F	

Figure 9. Chemical structures of a reference diaminopyridine and of derivatives in development that are characterised by a high *in vitro* activity towards *S. pneumoniae.*



drug	-R
trimetoprim	
iclaprim	
AR-709