Antimicrobial agents with bactericidal and bacteriostatic modes of action

General recommendations for reading of Etest® MIC endpoints:
Bactericidal drugs – at complete inhibition
Bacteriostatic drugs – at 80-90% inhibition
Important observation: Antimicrobial agents can exhibit a mixture of static and cidal effects depending on the drug concentration, organism load and type of organism being affected.

Antimicrobial Class Antibiotic	Antimicrobial Subclass	Agent	Code	Mode of action
Penicillins	Penicillin	Benzylpenicillin	PG	Bactericidal
	Aminopenicillin	Amoxicillin	AC	Bactericidal
		Ampicillin	AM	Bactericidal
	Ureidopencillin	Piperacillin	PP	Bactericidal
	Carboxypenicillin	Ticarcillin	TI	Bactericidal
	Methoxypenicillin	Temocillin	TMO	Bactericidal
	Isoxazolyl penicillin	Oxacillin	OX	Bactericidal
	Amidinopenicillin	Mecillinam	MM	Bactericidal
	Phenoxypenicillins	Phenoxymethylpenicillin	PV	Bactericidal
β-lactam/β-lactamase inhibitor combinations		Amoxicillin/clavulanic acid	XL	Bactericidal
		Ampicillin/sulbactam	AB	Bactericidal
		Piperacillin/tazobactam	PTc	Bactericidal
		Ticarcillin/clavulanic acid	TLc	Bactericidal
		Cefoperazone/sulbactam	CPS	Bactericidal
β-lactamase inhibitor	Penicillanic acid sulfone	Sulbactam	SUL	Bactericidal
Cephems (parenteral)	Cephalosporin I	Cephalothin	CE	Bactericidal
	Cephalosporin II	Cefuroxime	XM	Bactericidal
	Cephalosporin III	Cefoperazone	CP	Bactericidal
	(extended spectrum	Cefotaxime	CT	Bactericidal
	cephalosporins)	Cefodizime	FZ	Bactericidal
		Ceftizoxime	CZ	Bactericidal
		Ceftazidime	TZ	Bactericidal
		Ceftriaxone	TX	Bactericidal
	Cephalosporin IV	Cefepime	PM	Bactericidal
	(extended spectrum cephalosporins)	Cefpirome	CR	Bactericidal
	Cephamycin	Cefotetan	CN	Bactericidal
		Cefoxitin	FX	Bactericidal
Cephems (oral)	Cephalosporin	Cefaclor	CF	Bactericidal
		Cefdinir	CD	Bactericidal
		Cefditoren	FD	Bactericidal
		Cefixime	IX	Bactericidal
		Cefpodoxime	PX	Bactericidal
		Cefprozil	FP	Bactericidal
		Ceftibuten	CB	Bactericidal
		Cefalexin	CX	Bactericidal
Monobactams		Aztreonam	AT	Bactericidal

Antimicrobial Class Antibiotic	Antimicrobial Subclass	Agent	Code	Mode of action
Penems	Carbapenems	Ertapenem	ETP	Bactericidal
		Imipenem	IP	Bactericidal
		Meropenem	MP	Bactericidal
Aminocyclitols		Spectinomycin	SC	Bactericidal
Aminoglycosides		Amikacin	AK	Bactericidal
		Gentamicin	GM	Bactericidal
		Kanamycin	KM	Bactericidal
		Netilmicin	NC	Bactericidal
		Streptomycin	SM	Bactericidal
		Tobramycin	TM	Bactericidal
Ansamycins	Rifamycin B	Rifampicin	RI	Bactericidal
Quinolones	Quinolone	Nalidixic acid	NA	Bactericidal
	Fluoroquinolone	Ciprofloxacin	CI	Bactericidal
		Gatifloxacin	GA	Bactericidal
		Gemifloxacin	GEM	Bactericidal
		Levofloxacin	LE	Bactericidal
		Moxifloxacin	MX	Bactericidal
		Norfloxacin	NX	Bactericidal
		Ofloxacin	OF	Bactericidal
		Pefloxacin	PE	Bactericidal
		Sparfloxacin	SO	Bactericidal
		Enrofloxacin	EF	Bactericidal
Folate pathway inhibitors	Diaminopyrimidine	Trimethoprim	TR	Bacteriostatic
		Trimethop./sulfamethoxazole	TS	Bacteriostatic
	Sulphonamide	Sulfadiazine	SU	Bacteriostatic
		Sulfamethoxazole	SX	Bacteriostatic
Phosphonic acids		Fosfomycin	FM	Bacteriostatic
Lincosamides		Clindamycin	CM	Bacteriostatic
Cyclic peptides		Bacitracin	BA	Bactericidal
	Lipopolypeptide	Daptomycin	DPC	Bactericidal
	Polymyxin	Colistin (polymyxin E)	CO	Bactericidal
		Polymyxin B	PO	Bactericidal
Macrolides	Azalide	Azithromycin	AZ	Bacteriostatic
	Macrolide	Clarithromycin	CH	Bacteriostatic
		Dirithromycin	DT	Bacteriostatic
		Erythromycin	EM	Bacteriostatic
		Roxithromycin	RO	Bacteriostatic
Nitrofurans		Nitrofurantoin	NI	Bactericidal
Nitroimidazoles		Metronidazole	MZ	Bactericidal
Oxazolidinones		Linezolid	LZ	Bacteriostatic
Glycopeptides	Glycopeptide	Vancomycin	VA	Bactericidal
	Lipoglycopeptide	Teicoplanin	TP	Bactericidal
Phenicols		Chloramphenicol	CL	Bacteriostatic
Streptogramins		Quinupristin/dalfopristin	QDA	Bacteriostatic

Tetracyclines		Doxycycline	DC	Bacteriostatic
		Minocycline	MC	Bacteriostatic
		Tetracycline	TC	Bacteriostatic
Glycylcyclines		Tigecycline	TGC	Bacteriostatic
Fusidanes		Fusidic acid	FU	Bacteriostatic
Pseudomonic acids		Mupirocin	MU	Bacteriostatic
Antifungal				
Polyenes		Amphotericin B	AP	Fungicidal
Azoles	Imidazole	Ketoconazole	KE	Fungistatic
	Triazole	Fluconazole	FL	Fungistatic
		Itraconazole	IT	Fungistatic
		Voriconazole	VO	Fungistatic
		Posaconazole	POS	Fungistatic
Echinocandins		Caspofungin	CS	Fungistatic (variable)
Pyrimidines	Fluorinated pyrimidine	Flucytosine	FC	Fungistatic
Antimycobacterial (Various classes of antibiotics may also be active against mycobacteria)				
		Ethambutol	EB	Bactericidal
		Ethionamide	ET	Bactericidal
		Isoniazide	IZ	Bactericidal
		Pyrazinamide	PY	Bactericidal

Further information on Etest endpoint selection can be found in CIS 007 available at www.abbiodisk.com

AB BIODISK Tel. +46-(0)8-730 07 60, Fax. +46-(0)8-83 81 58, etest@abbiodisk.se, www.abbiodisk.com