

Electronic Supplementary Information (ESI)

Table 1:

Enzyme	Aminoglycoside Substrate	Co-substrate	PDB code
AAC's			
AAC(2')-Ic	None	None	1M44
AAC(2')-Ic	Tobramycin	Coenzyme-A	1M4D
AAC(2')-Ic	Ribostamycin	Coenzyme-A	1M4G
AAC(2')-Ic	Kanamycin	Coenzyme-A	1M4I
AAC(6')-Ib	None	None	2PR8
AAC(6')-Ib	None	Coenzyme-A	2PRB
AAC(6')-Ib	Kanamycin	Coenzyme-A	2QIR
AAC(6')-Ib	Ribostamycin	Coenzyme-A	2BUE
AAC(6')-Ib	Paromomycin	Coenzyme-A	2VQY
AAC(6')-Ie	Kanamycin	Coenzyme-A	4QC6
AAC(6')-Ig	None	None	4FOY
AAC(6')-Ig	Tobramycin	None	4EVY
AAC(6')-Ih	None	None	4E8O
AAC(6')-Ii	None	Coenzyme-A	1N71
AAC(6')-Ii	None	Acetyl Coenzyme-A	1B87
AAC(6')-Iy	Ribostamycin	Coenzyme-A	1S3Z
AAC(6')-Iy	None	Bisubstrate	2VBQ
AAC(6')-Iy	None	None	1S5K
AAC(3)-Ib	None	None	4YFJ
AAC(3)-Ia	None	Coenzyme-A	1BO4
APH's			
APH(4)-Ia	Hygromycin B	None	3TYK
APH(4)-Ia (mutant)	None	None	3W0M
APH(4)-Ia	Hygromycin B	AMPPNP	3WOS
APH(4)-Ia (mutant)	Hygromycin B	AMPPNP	3W0N
APH(4)-Ia (mutant)	Hygromycin B	AMPPNP	3W0Q
APH(4)-Ia (mutant)	Hygromycin B	AMPPNP	3W0R
APH(4)-Ia (mutant)	Hygromycin B	ADP	3W0O
APH(4)-Ia (mutant)	Hygromycin B	ADP	3W0P
APH(9)-Ia	None	None	3I1A
APH(9)-Ia	Spectinomycin	ADP	3I0Q
APH(9)-Ia	None	AMP	3I0Q
APH(9)-Ia	None	CKI-7 (inhibitor)	3Q2M
APH(3')-Ia	None	ATP	4EJ7
APH(3')-Ia	Kanamycin	Anthrapyrazolone (inhibitor)	4FEU
APH(3')-Ia	Kanamycin	PP1 (inhibitor)	4FEV

APH(3')-Ia	Kanamycin	PP2 (inhibitor)	4FEW
APH(3')-Ia	Kanamycin	Tyrphostin (inhibitor)	4FEX
APH(3')-Ia	Kanamycin	1-NA-PP1 (inhibitor)	4GKH
APH(3')-Ia	Kanamycin	1-NM-PP1 (inhibitor)	4GKI
APH(3')-IIa	Kanamycin	None	1ND4
APH(3')-IIIa	None	None	1J7I
APH(3')-IIIa	None	ADP	1J7L
APH(3')-IIIa	None	AMPPNP	1J7U
APH(3')-IIIa	Kanamycin	ADP	1L8T
APH(3')-IIIa	None	ADP	2BKK
APH(3')-IIIa	None	CKI-7 (inhibitor)	3Q2J
APH(3')-IIIa	Neomycin B	ADP	2B0Q
APH(3')-IIIa	Butirosin A	AMPPNP	3TMO
APH(3')-VIII	None	None	4H05
APH(2'')-Ia	None	GDP	4ORK
APH(2'')-Ia	Kanamycin	GMPPNP	(to be published)
APH(2'')-Ia	Gentamicin C1	GMPPNP	(to be published)
APH(2'')-Ib	None	None	3UZR
APH(2'')-Ib	None	ADP	4DCA
APH(2'')-IIa	Gentamicin C1a	None	3HAM
APH(2'')-IIa	Streptomycin	ATP	3HAV
APH(2'')-IIIa (mutant)	None	GDP	3TDW
APH(2'')-IIIa	None	GDP	3TDV
APH(2'')-Iva	None	ADP	4N57
APH(2'')-Iva	None	Adenosine	4DT8
APH(2'')-Iva	None	Guanosine	4DT9
APH(2'')-Iva (mutant)	None	Adenosine	4DTA
APH(2'')-Iva (mutant)	None	Guanosine	4DTB
APH(2'')-Iva	None	None	3N4T
APH(2'')-Iva	Kanamycin	None	3SG9
APH(2'')-Iva	Tobramycin	None	3SG8
APH(2'')-Iva	Kanamycin	Quercetin (inhibitor)	4DFU
ANT's			
ANT(6)-Ia	None	None	2PBE
ANT(4')-Ia	None	None	1KAN
ANT(4')-Ia	Kanamycin	AMPCPP	1KNY
ANT(4')-IIb	None	None	4EBJ
ANT(4')-IIb	Tobramycin	None	4EBK
ANT(2'')-Ia	None	None	4WQK
ANT(2'')-Ia	Kanamycin	None	4WQL
ANT(2'')-Ia	Tobramycin	AMP	4XJE
ANT(2'')-Ia	Tobramycin	AMPCPP	5CFS

ANT(2'')-Ia	Gentamicin C1	AMPCPP	5CFT
ANT(2'')-Ia	None	2''-adenylyl-tobramycin	5CFU
ANT(3'')-Ia	None	None	4CS6
Bacterial Ribosome			
16S-rRNA A-site	Lividomycin	N/A	2ESJ
16S-rRNA A-site	Neomycin A	N/A	2ET8
16S-rRNA A-site	Neomycin B	N/A	2ET4
16S-rRNA A-site	Paromomycin	N/A	1J7T
16S-rRNA A-site	Kanamycin	N/A	2ESI
16S-rRNA A-site	Amikacin	N/A	4P20
16S-rRNA A-site	Tobramycin	N/A	1LC4
16S-rRNA A-site	Gentamicin C1a	N/A	2ET3
16S-rRNA A-site	Sisomicin	N/A	4F8U
30S ribosomal subunit	Hygromycin	N/A	1HNZ
30S ribosomal subunit	Streptomycin	N/A	4DR3
Bacterial ribosome	Spectinomycin	N/A	4V56