Supporting Information

Identification of the Anti-infective Aborycin Biosynthetic Gene Cluster from Deep-Sea-Derived *Streptomyces* sp. SCSIO ZS0098 Enables Production in a Heterologous Host

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Table S1. Bacteria used in this study.

Strains	Description	Source/[Ref]
E. coli		
DH5α	Host strain for general clone	
BW25113/pIJ790	K-12 derivative: *araBAD*, *rhaBAD*; host strain for Red/ET-mediated recombination	[1]
ET12567/pUZ8002	*dam*, *dcm*, *hsdM*, *hsdS*, *hsdR*, *catR*, *tetR*; donor strain for conjugation between *E. coli* and *Streptomyces*	[2]
XL 1-Blue MR	Host strain for construction of genomic cosmid library	Stratagene
Streptomycetes		
Streptomyces coelicolor M1152	Host strain for heterologous expression of the *abm* biosynthetic gene cluster	
Streptomyces coelicolor TK64	Host strain for heterologous expression of the *abm* biosynthetic gene cluster	
Streptomyces sp. SCSIO ZS0098	Wild-type producer of aborycin	This work

Table S2. Plasmids used in this study.

Plasmids	Description	Source/[Ref]
pIJ773	P1-FRT-oriT-aac(3)IV-FRT-P2	[3]
pIJ790	λ–RED (*gam bet exo*) CmlR *araCrep101ts*	[4]
pSET152AB	*aac(3)IV-oriT-intϕ*C31	
SuperCos1	Used for construction of genomic cosmid library	Stratagene
cosmid 15-12H	A cosmid which contains partial *abo* biosynthetic cluster	This work

Table S3. Primers used in this study.

Primer Name	Sequence (5'→3')	purpose
screen-orf(-3)-F	TGGAAGCCCGTCACCGCTA	For the screening of the genomic library
screen-orf(-3)-R	CGAACGCACCCACCAGAA	
screen-orf(+3)-F	TGGAAGCCCGTCACCGCTA	For the screening of the genomic library
screen-orf(+3)-R	CGAACGCACCCACCAGAA	
screen-aboB1-F	CGACTTCGGCTGGGTGTTCG	For the screening of the genomic library
screen-aboB1-R	TCGGCTGGAGGTGATGGGAC	

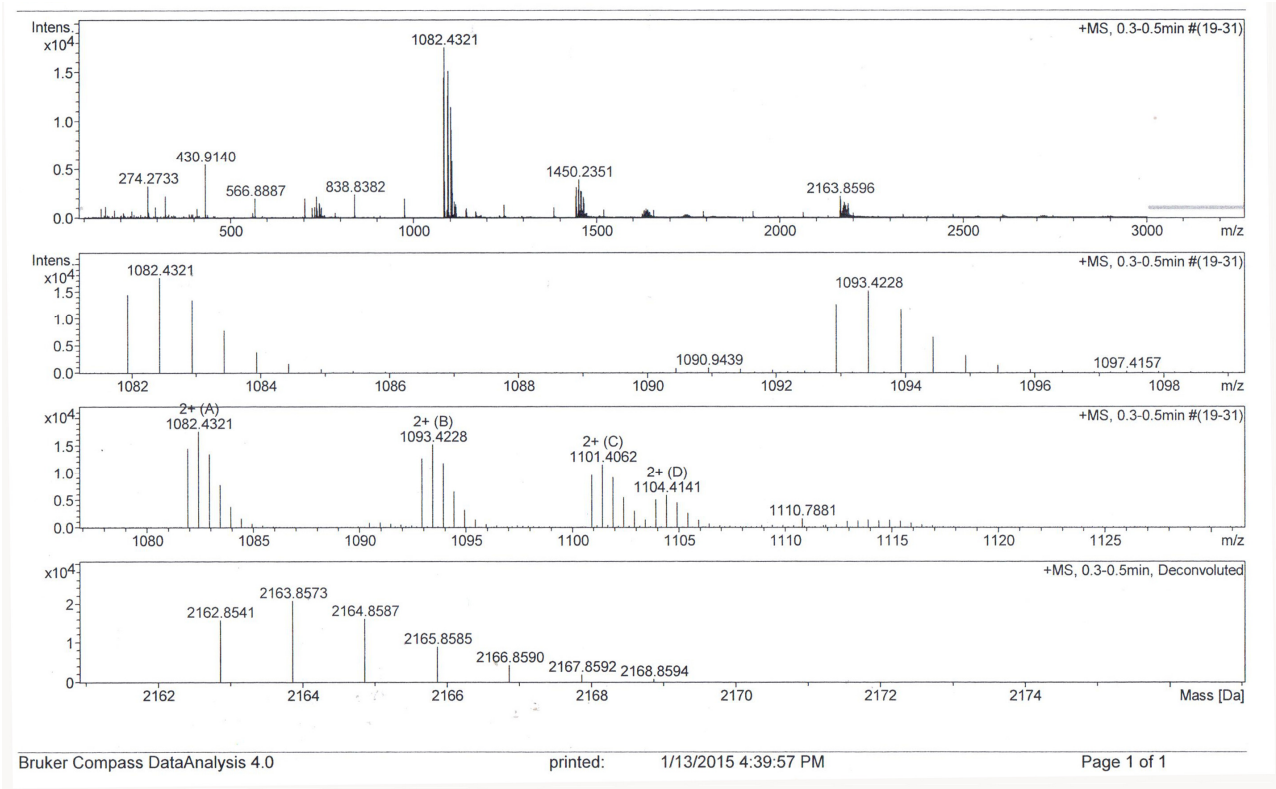

Figure S1. Positive ion peak of mass spectra of aborycin.

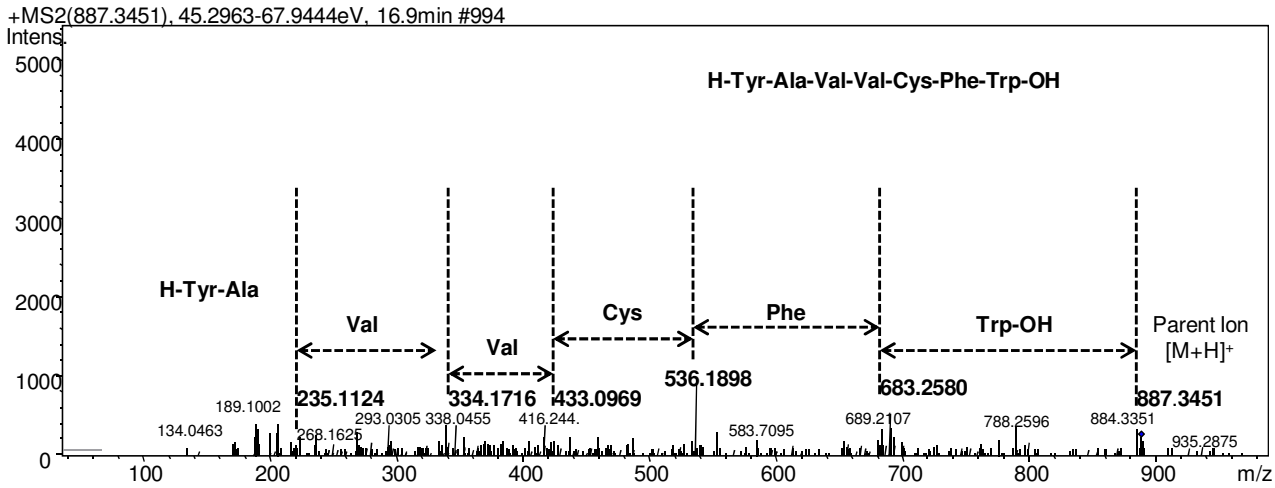

Figure S2. Tandem mass analysis and derived structure of a peptide (parent ion $[M + H]^+$ at m/z = 887.3451) yielded from acid hydrolysate of aborycin.

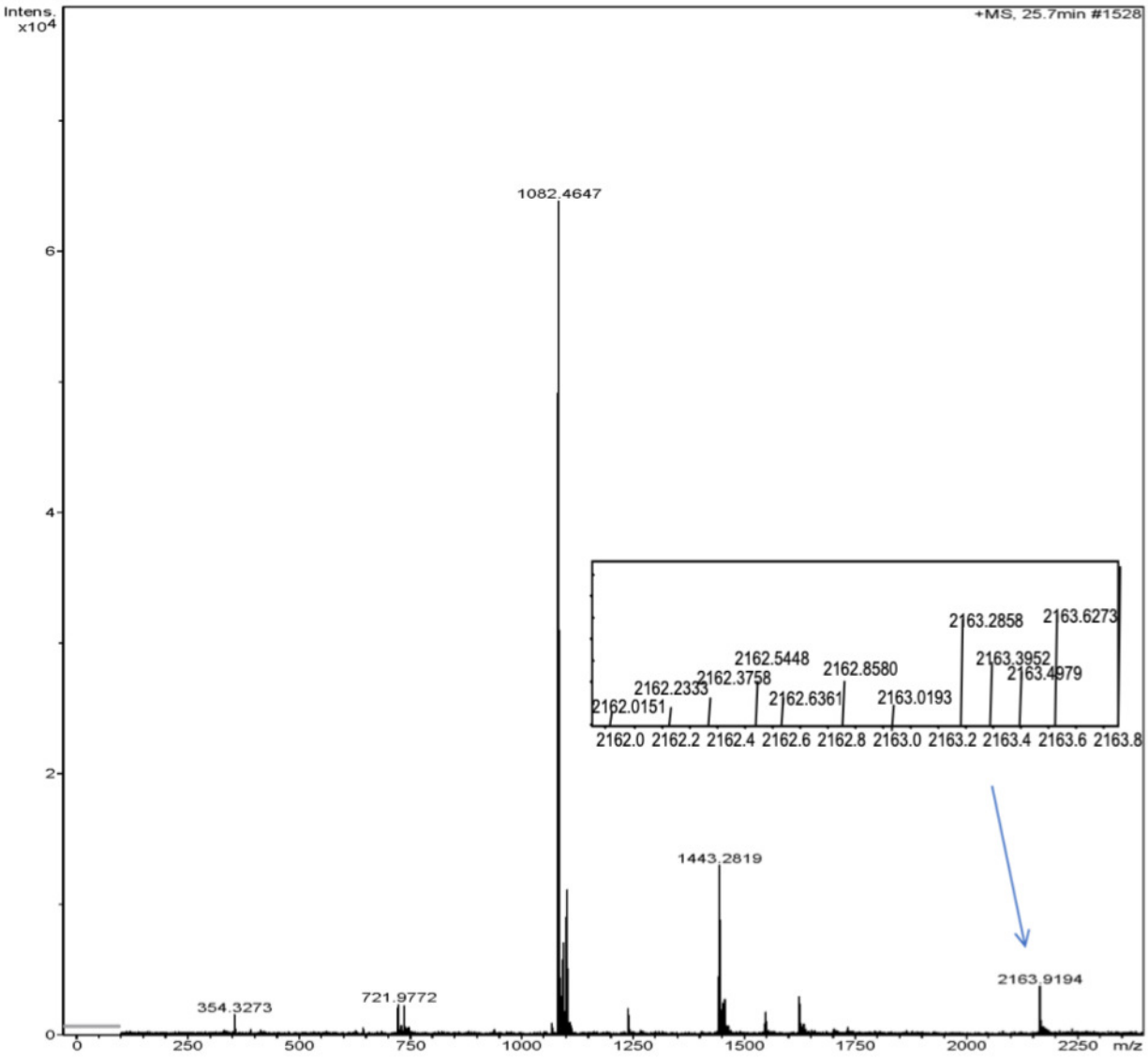

Figure S3. LC-MS analysis of aborycin accumulated in the cultures of *Steptomyces coelicolor* M1152/1512H (Positive mode).

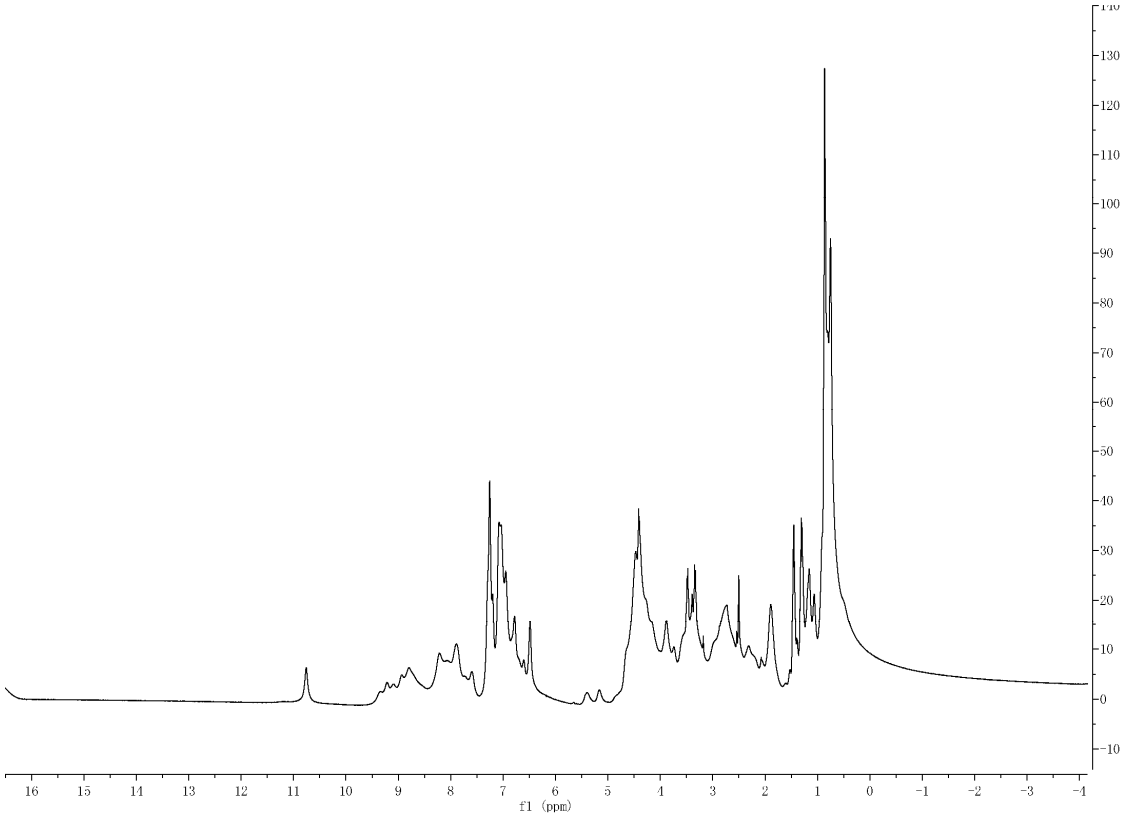

Figure S4. ^{1}H NMR (500 MHz) spectrum of aborycin in DMSO-d_6.

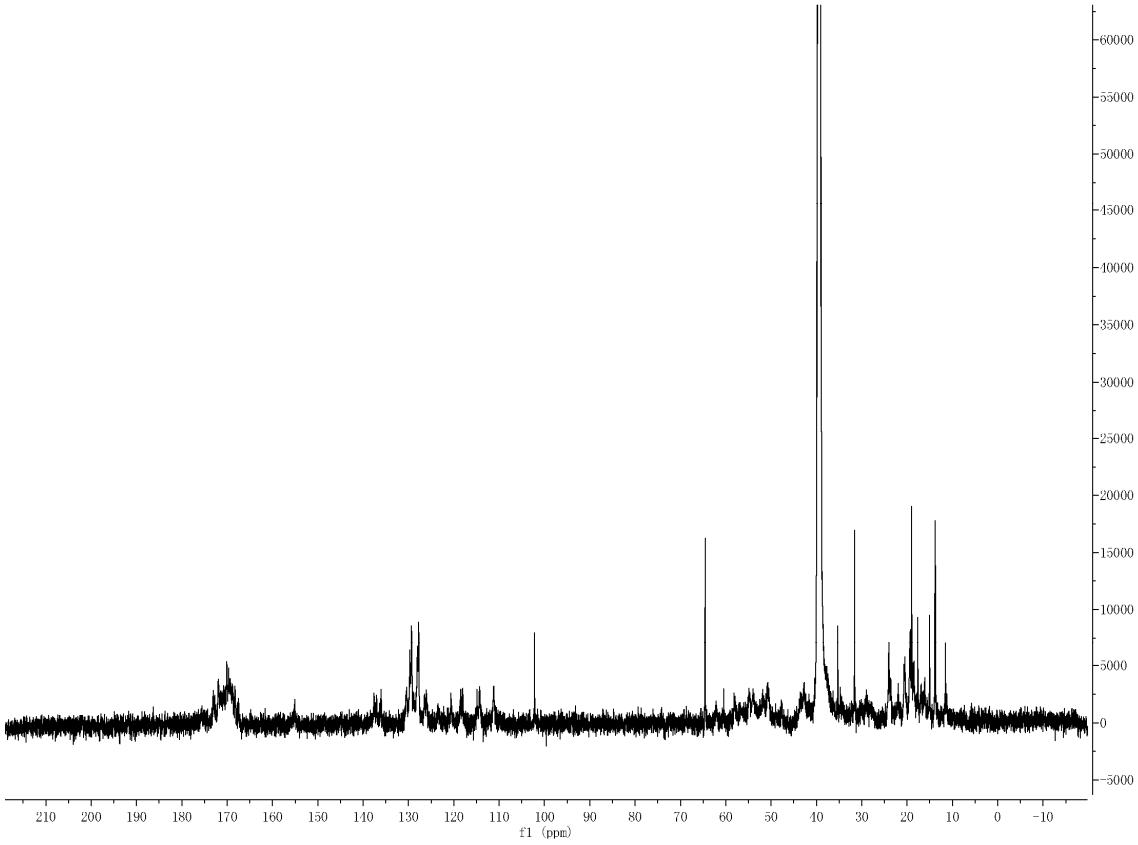

Figure S5. ^{13}C NMR (125 MHz) spectrum of aborycin in DMSO-d_6.

References

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