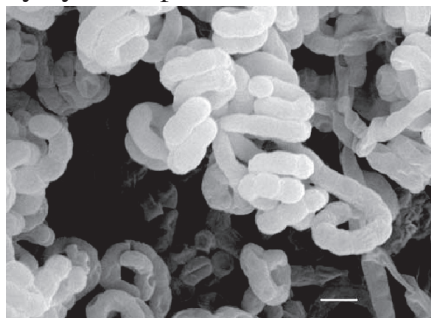


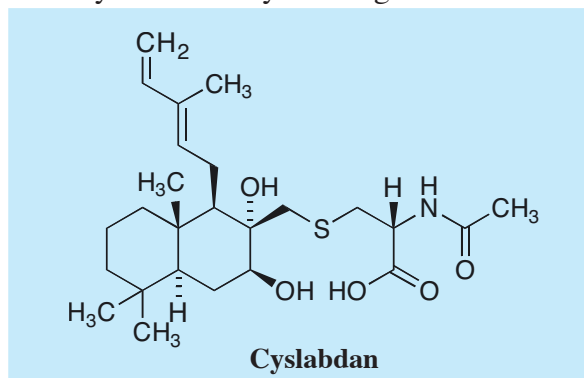
Cyslabdan

1. Discovery, producing organism and structures¹⁻³⁾

Cyslabdan was isolated from the culture broth of the *Streptomyces cyslabdanicus* strain K04-0144^T as a potentiator of imipenem activity against MRSA. Cyslabdan has a labdane-type diterpene skeleton connecting with an *N*-acetylcysteine *via* thioether. The relative configuration of the diterpene part was determined by NOE experiments and the absolute configuration of the *N*-acetylcysteine part was elucidated as L-form by HPLC analysis using a chiral column²⁾.



Streptomyces cyslabdanicus K04-0144^T



2. Physical data

White powder. C₂₅H₄₁NO₅S; mol wt 467.66. Sol. in H₂O, CH₃CN, MeOH. Insol. in EtOAc, CHCl₃.

3. Biological activity^{1,4)}

The MIC value of imipenem against MRSA was reduced from 16 to 0.015 μg/ml in combination with cyslabdan. Study on anti-MRSA activity of other typical antibiotics in combination with cyslabdan showed that the potentiating activity was limited to β-lactam antibiotics.

	β-Lactam	MIC (μg/ml)		Ratio (-/+)
		Cyslabdan (-)	Cyslabdan (+)	
Penam	Ampicilin	>1024	64	16
	Penicillin G	512	64	8
	Cloxacilin	512	16	32
Cephem	Cefazolin	512	64	8
	Cefalexin	1024	256	4
	Cefotaxime	1024	64	16
	Cefmetazole	128	4	32
Carbapenem	Imipenem	16	0.015	1024
	Biapenem	16	0.032	512
	Panipenem	32	0.032	1024
	Meropenem	16	0.125	128

The concentration of cyslabdan was set up at 10 μg/ml.

4. References

- [977] A. Fukumoto *et al.*, *J. Antibiot.* **61**, 1-6 (2008)
- [978] A. Fukumoto *et al.*, *J. Antibiot.* **61**, 7-10 (2008)
- [1178] A. Take *et al.*, *J. Antibiot.* **68**, 322-327 (2015)
- N. Koyama *et al.*, *PLoS One* **7**, e48981 (2012)