

JOINT EVENT

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New potent anti-gram negative compounds from the myxobacteria *Coralloccoccus coralloides***Won Gon Kim**

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Recently, infections caused by MDR Gram-negative bacteria has become a growing problem. There is an urgent need for new agents to treat infections caused by Gram-negative bacteria resistant to currently available agents. Myxobacteria are a group of Gram-negative bacteria that produce a diverse range of bioactive secondary metabolites. Myxobacteria have received attention as a source of novel anti-infective natural products. Our objective is to search for anti-Gram-negative metabolites from Korean myxobacteria. Two new potent anti-Gram negative compounds, coralmycins A(1) and B(2), were isolated from cultures of the myxobacteria *Coralloccoccus coralloides* M23, together with another derivative (3) that was identified as the very recently reported cystobactamid 919-2. Their structures including the relative stereochemistry were elucidated by interpretation of spectroscopic, optical rotation, and CD data. The antibacterial activity of 1 was most potent against Gram-negative pathogens, including *Escherichia coli*, *Pseudomonas aeruginosa*, *Acinetobacter baumannii* and *Klebsiella pneumoniae*, with MICs of 0.1–4 µg/ml; these MICs were 4–10 and 40–100 times stronger than the antibacterial activities of 3 and 2, respectively. This result suggested that the β-methoxyasparagine unit and the hydroxy group of the benzoic acid unit were critical for antibacterial activity. Thus, this study indicated that coralmycin A has great potential for treatment of multidrug-resistant bacteria, including Gram-negative bacteria.

Biography

Won Gon Kim has completed his PhD from Seoul National University, South Korea, and Postdoctoral studies from NIH, USA. He is a Principal Research Scientist of Korea Research Institute of Bioscience and Biotechnology (KRIBB), South Korea. He has published more than 90 SCI papers in reputed journals.

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