Woo-Jung et al., J Drug Metab Toxicol 2015, 6:4
http://dx.doi.org/10.4172/2157-7609.C1.003

OMICS International
conferenceseries.com

World Congress and Exhibition on
Antibiotics

September 14-16, 2015 Las Vegas, USA

Liquid chromatography mass spectrometry based rapid secondary metabolite profiling of marine *Pseudoalteromonas* sp. M2

Woo-Jung and Kim
Gyeonggi Institute of Science and Technology Promotion (GSTEP), Korea

The ocean is a rich resource of flora, fauna and food. A wild-type bacterial strain showing confluent growth on marine agar with antibacterial activity was isolated from marine water, identified using 16S rDNA sequence analysis as *Pseudoalteromonas* sp., and was designated as strain M2. This strain was found to produce various secondary metabolites including quinolone alkaloids. Using high-resolution mass spectrometry (MS) and nuclear magnetic resonance (NMR) analysis, we identified 9 secondary metabolites of 4-hydroxy-2-alkylquinoline (pseudane-III, IV, V, VI, VII, VIII, IX, X, and XI). Additionally, this strain produced 2 novel closely related compounds, 2-isopentylqunoline-4-one and 2-(2,3-dimetylbutyl)qunoline-4-(1H)-one, which have not been previously reported from marine bacteria. From the metabolites produced by *Pseudoalteromonas* sp. M2, 2-(2,3-dimethylbutyl)quinolin-4-one, pseudane-VI and pseudane-VII inhibited melanin synthesis in melan-a cells by 23.0%, 28.2% and 42.7%, respectively, wherein pseudane-VII showed highest inhibition at 8 μg/mL. The results of this study suggest that liquid chromatography (LC)-MS/MS-based metabolite screening effectively improves efficiency of novel metabolite discovery. Additionally, these compounds are promising candidates for further bioactivity development.

Biography

Woo Jung Kim received the PhD degree from the Catholic University of Korea in Biotechnology. He is currently Gyeonggi Institute of Science and Technology Promotion (GSTEP) in Korea. His research interests include structure and bioactivities of polysaccharides and oligosaccharides and related enzymology. He has published more than 22 papers in journals and been a member of the Korean Society for Glycoscience and The Korean Society for Applied Biological Chemistry.

wj5319@nate.com

Notes: