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優秀発表賞応募講演 | JSAS Excellent Presentation Award

## JSAS Excellent Presentation Award 3

Chairperson: Naoki Isobe Isobe, Kazuhisa Honda (Graduate School of Agriculture Science, Kobe University),  
Ryuichi Tatsumi, Yuji Miyaguchi

Tue. Sep 14, 2021 9:30 AM - 11:00 AM 優秀発表応募演題3 (オンライン)

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### [IIIYS-05] Productional, structural and antioxidative characterization of exopolysaccharides from *Enterococcus faecium* AK1247

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**[Objective]** Microbial exopolysaccharides (EPS) are known to have some beneficial effects on human health, skin care and food texture. This study aimed to characterize productivity, elementary structure and antioxidative capacity of EPS produced by *Enterococcus faecium* AK1247. **[Methods]** AK1247 had been isolated from Uyghur traditional fermented milk, Kitek. Optimization of EPS production from AK1247 was conducted by one variable at a time and response surface methodology. Next, the EPS was purified using anion exchange chromatography (AEC), and then applied to molecular weight and monosaccharide composition analyses using HPLC. At last, oxygen and hydroxyl radical scavenging capacities of the EPS were assayed with commercial kits. **[Results]** The maximum yield of the EPS was obtained in modified MRS broth with increase of yeast extract, meat extract and glucose. In AEC, one neutral and two acidic EPS peaks were detected and purified. These had main sizes of 1.96-3.98 x 10<sup>5</sup> Da, and consisted of mannose, glucose and galactose with different ratio. Furthermore, the crude EPS and one of the purified acidic EPS showed strong antioxidant activity.