
口頭発表 | 5. 畜産物利用

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座長:佐々木 啓介(農研機構畜産部門)、船津 保浩(酪農大食と健康)、川井 泰(日大生資科)、重盛 駿(信州大農)
2019年9月18日(水) 13:30 ~ 16:20 第II会場 (7 番講義室)

II-18-01~II-18-04 : 佐々木 啓介

II-18-05~II-18-08 : 船津 保浩

II-18-09~II-18-12 : 川井 泰

II-18-13~II-18-16 : 重盛 駿

15:40 ~ 15:50

[II-18-13]Mucus-binding factor regulate the adhesion ability of

Lactobacillus rhamnosus intestinal mucosa

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[Objective] Immunomodulatory probiotics (immunobiotics) have been considered a promising substitute for antimicrobials in livestock field due to their positive effects against gastrointestinal disorders. The mucus-binding factor (MBF), a bacterial surface protein that adhere to the intestinal mucosa and subsequently affects host immunity. Therefore, we elucidate the of MBF in the mucin-adhesion ability of *L. rhamnosus* in vitro by using gene-knockout technique. [Methods] The *mbf*-gene was knocked out from the *L. rhamnosus* genome by double-crossover in pSG⁺E2 according to the protocol described by Yamauchi et al. (2019)¹. Then, adhesion ability of knockout strain to mucin was evaluated by Biacore assay in soluble human colonic mucin (sHCM-A) and soluble porcine intestinal epithelial mucin (sPIM). [Results] We have successfully created the *mbf*-knockout (Δmbf) strain of *L. rhamnosus*. When the wild type and Δmbf were compared, Δmbf showed significantly decreased adhesion to sPIM, but not to sHCM-A.

¹Yamauchi et al. (2019). *J Dairy Sci.*102: 1033-1043.