

5. 畜産物利用

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[P5-04] Immunomodulatory properties and the genomic studies of immunobiotics and immunosynbiotic characterization

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Wakame has prebiotic and immunomodulatory properties and therefore, wakame wastes were proposed to be used in feed formulation as a immunoprebiotic in combination with immunobiotics. To select wakame assimilating immunobiotics for the development of "Immunosynbiotic" feeds, we isolated lactobacilli from the porcine small intestine and screened for their immunomodulatory properties and wakame-assimilative abilities *in vitro*. The immunomodulatory effect of lactobacilli was evaluated in porcine intestinal epitheliocytes after the activation of TLRs. Isolated lactobacilli(116 strains) were divided into 14 groups according to their different immunomodulatory properties. The genomic study suggested the different immune phenotypes were related to genes involved in bacterial cell division and cell wall. The addition of wakame to lactobacilli had positive effect on survival in gastric condition, indicating that it is important for wakame assimilating immunobiotics to survive acidic environment, suggesting the " immunosynbiotic" potentials of lactobacilli and wakame.[ACK]BRAIN (Research program on development of innovative technology)