E3

Antimicrobial effect of humane lactoferrin against *Listeria monocytogene*

Hui-Young Lee, Jong-Hwan Park, Seung-Hyeok Seok, Min-Won Baek, Dong-Jae Kim, Pil-Don Kang[1], Yong-Soon Kim[1] and Jae-Hak Park*

Department of Laboratory Animal Medicine, College of Veterinary Medicine and School of Agricultural Biotechnology, Seoul National University, San 56-1, Shillim-Dong, Kwanak-Gu, Seoul, 151-742, Korea and [1]Department of Agricultural Biology, National Instutute of Agricultural Science and Technology, RDA, Suwon, 441-744, Korea.

Antimicrobial activity of human lactoferrin (hLF) was assessed using *in vitro* and *in vivo* models of *Listeria monocytogenes*. The overgrowth of *L. monocytogenes* was effectively inhibited by the presence of hLF. The minimum inhibitory concentration (MIC) for several strains of *L. monocytogenes* was determined to 1000 ㎍/㎖. The *in vivo* antimicrobial effects of the hLF against *L. monocytogenes* ATCC 51774 were also assessed. The mice were orally administered with hLF (2 mg/kg, 0.2 mg/kg) for 5 days, followed by infected with 1×10^8 CFU of *L. monocytogenes* ATCC 51774. For two days after infection, the mice were additionally administered with same amounts of hLF. The number of bacteria significantly decreased in the liver of mice administered with 2 mg/kg hLF, but not in the spleen. Histopathologically, the size and numbers of necrotic foci decreased in the mice administered with 2 mg/kg hLF. Additionally, the mRNA level of cytokines, such as INF-γ, IL-1β, IL-10 and TNF-α also decreased in the same mice.