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**New antimycobacterial peptides produced by microorganisms**

Our research group has focused on drug discovery from microorganisms. Tuberculosis is the greatest single infections cause of mortality in the world. For discovery of new antimycobacterial agents, we have searched for microbial metabolites which selectively inhibit the growth of *Mycobacteria smegmatis*. Over 30,000 culture broths of actinomycetes, fungi and bacteria were screened, and only two strains, actinomycete KOI-B0171 and fungus FKI-4905, were selected. The former stain, identified as *Rhodococcus jostii*, was found to produce new cyclopeptides designated lariatins A and B. Lariatin A consisted of 18 amino acids with an internal linkage between α-amino group of Gly1 and γ-carboxy group of Glu8, and was folded into a lasso structure. The latter stain, identified as *Mortierella alpina*, produced a new hexapeptide designated calpinactam with a caprolactam ring at the C terminal. Lariatin A and calpinactam inhibited not only the growth of *M. smegmatis* but also *M. tuberculosis*. The proposed mechanism of action of lariatin A will be also presented.

**Curriculum Vitae**

Hiroshi Tomoda is Professor of the Graduate School of Pharmaceutical Sciences, Kitasato University. He graduated from the Faculty of Pharmaceutical Sciences, University of Tokyo, in 1978, and received his Ph.D. degree in the Graduate School of Pharmaceutical Sciences from the same university in 1983. He

worked as a researcher (1983-1991) and a chief researcher (1991-2000) at the Kitasato Institute. He also worked as a post-doctoral fellow in the Department of Biology, the Johns Hopkins University in 1987-1989. He was promoted to Professor in Graduate School of Infection Control Sciences, Kitasato University, in 2001. Then, he moved to the present position in 2005. His research interests include discovery of new bioactive and anti-infective compounds from microorganisms, and study on the mechanism of action of the compounds he discovered.