



Project Associate Professor Saori Kosono

Room 301

Phone: [+81-35841-3069] Fax: [+81-35841-0370]

E-Mail: uskos@mail.ecc.u-tokyo.ac.jp

Background

1991 B. Sci Osaka University, Faculty of Engineering

1993 M.Sci Osaka University, Graduate School of Fermentation Biotechnology

1996 Ph.D. Osaka University, Graduate School of Fermentation Biotechnology

1996-1997 Special Postdoctoral Researchers in RIKEN

1997-2005 Research Scientist in RIKEN

2005-2012 Senior Research Scientist in RIKEN

2012-present Project Associate professor of Biotechnology Research Center, The Univ. of Tokyo

2006 Award for the Encouragement of Young Scientists, The Japan Society for Extremophiles

Research

Protein acyl modification is an evolutionarily conserved post-translational modification and occurs in proteins with diverse functions. Our group is investigating protein acetylation and succinylation, which are the major acyl modifications, using *Corynebacterium glutamicum* (a bacterium used for industrial fermentation), *Bacillus subtilis* (a model bacterium), and *Thermus thermophilus* (a thermophilic bacterium) to reveal its biological functions and applications for metabolic regulation with proteomic, molecular biological, and structural biological approaches.

Key papers

1. [Kosono S](#), Tamura M, Suzuki S, Kawamura Y, Yoshida A, Nishiyama M, Yoshida M. Changes in the acetylome and succinylome of *Bacillus subtilis* in response to carbon source. **PLoS One**. 10: e0131169 (2015).
2. Kajiyama Y, Otagiri M, Sekiguchi J, Kudo T, [Kosono S](#). The MrpA, MrpB and MrpD subunits of the Mrp antiporter complex in *Bacillus subtilis* contain membrane-embedded and essential acidic residues. **Microbiology**. 155: 2137-47 (2009).
3. Kajiyama Y, Otagiri M, Sekiguchi J, [Kosono S](#), Kudo T. Complex formation by the *mrp*ABCDEFGF gene products, which constitute a principal Na⁺/H⁺ antiporter in *Bacillus subtilis*. **J. Bacteriol.** 189: 7511-4 (2007).
4. [Kosono S](#), Haga K, Tomizawa R, Kajiyama Y, Hatano K, Takeda S, Wakai Y, Hino M, Kudo T. Characterization of a multigene-encoded sodium/hydrogen antiporter (Sha) from *Pseudomonas aeruginosa*: its involvement in pathogenesis. **J. Bacteriol.** 187: 5242-5248 (2005).
5. Thongaram T, Hongoh Y, [Kosono S](#), Ohkuma M, Trakulnaleamsai S, Noparatnaraporn N, Kudo T. Comparison of bacterial communities in the alkaline gut segment among various species of higher termites. **Extremophiles** 9: 229-238 (2005).
6. Nanamiya H, Akanuma G, Natori Y, Murayama R, [Kosono S](#), Kudo T, Kobayashi K, Ogasawara N, Park S-M, Ochi K, Kawamura F. Zinc is a key factor for controlling alternative localization of two-types of L31 protein in the ribosome of *Bacillus subtilis*. **Mol. Microbiol.** 52: 273-283 (2004).
7. [Kosono S](#), Ohashi Y, Kawamura F, Kitada M, Kudo T. Function of a principal Na⁺/H⁺ antiporter, ShaA, is required for initiation of sporulation in *Bacillus subtilis*. **J. Bacteriol.** 182: 898-904 (2000).
8. [Kosono S](#), Maeda M, Fuji F, Arai H, Kudo T. Three of the seven *bphC* genes of *Rhodococcus erythropolis* TA421, isolated from a termite ecosystem, are located on an indigenous plasmid associated with biphenyl degradation. **Appl. Environ. Microbiol.** 63: 3282-3285 (1997).
9. [Kosono S](#), Kataoka M, Seki T, Yoshida T. The TraB protein, which mediates the intermycelial transfer of the *Streptomyces* plasmid pSN22, has functional NTP-binding motifs and is localized to the cytoplasmic membrane. **Mol. Microbiol.** 19: 397-405 (1996).
10. Kataoka M, [Kosono S](#), Seki T, Yoshida T. Regulation of the transfer genes of *Streptomyces* plasmid pSN22: in vivo and in vitro study of the interaction of TraR with promoter regions. **J. Bacteriol.** 176: 7291-7298 (1994).