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略歴

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研究内容

有機化合物により汚染された土壌・水の浄化法の一つに、微生物を用いたバイオレメディエーションが挙げられます。私達は環境細菌の分解活性を引き出すため、分解菌のスクリーニングや分解遺伝子群の同定、各種遺伝子の転写制御機構について研究を行っています。また分解遺伝子の多くがプラスミドにコードされていることから、プラスミド保持が宿主の生育や代謝に与える影響や、プラスミド-宿主染色体間相互作用の鍵因子である核様体タンパク質が転写制御ネットワークに与える影響についても分子レベルで解析を進めています。

主要論文

1. Suzuki-Minakuchi C, Hirotsu R, Shintani M, Takeda T, Takahashi Y, Matsui K, Vasileva D, Yun CS, Okada K, Yamane H, Nojiri H (2015) "Effects of three different nucleoid-associated proteins encoded on IncP-7 plasmid pCAR1 on host *Pseudomonas putida* KT2440." **Appl. Environ. Microbiol.** 81:2869-80
2. Shintani M, Suzuki-Minakuchi C, Nojiri H (2015) "Nucleoid-associated proteins encoded on plasmids: Occurrence and mode of function." **Plasmid** 80:32-44
3. Yun CS, Takahashi Y, Shintani M, Takeda T, Suzuki-Minakuchi C, Okada K, Yamane H, Nojiri H. "MvaT family proteins encoded on IncP-7 plasmid pCAR1 and the host chromosome regulate host transcriptome cooperatively but differently." **Appl. Environ. Microbiol.** in press
4. Kotake T, Matsuzawa J, Suzuki-Minakuchi C, Okada K, Nojiri H, Iwata K. "Purification and partial characterization of the extradiol dioxygenase, 2'-carboxy-2,3-dihydroxybiphenyl 1,2-dioxygenase, in the fluorene degradation pathway from *Rhodococcus* sp. strain DFA3." **Biosci. Biotechnol. Biochem.** in press
5. Matsuzawa J, Aikawa H, Umeda T, Ashikawa Y, Suzuki-Minakuchi C, Kawano Y, Fujimoto Z, Okada K, Yamane H, Nojiri H (2014) "Crystallization and preliminary X-ray diffraction analyses of the redox-controlled complex of terminal oxygenase and ferredoxin components in the Rieske nonhaem iron oxygenase, carbazole 1,9a-dioxygenase." **Acta Crystallogr. F Struct. Biol. Commun.** 70:1406-9.
6. Yee L, Hosoyama A, Ohji S, Tsuchikane K, Shimodaira J, Yamazoe A, Fujita N, Suzuki-Minakuchi C, Nojiri H (2014) "Complete genome sequence of a dimethyl sulfide-utilizing bacterium, *Acinetobacter guillouiae* strain 20B (=NBRC 110550)." **Genome Announc.** 2:e01048-14.
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8. Matsuzawa J, Umeda T, Aikawa H, Suzuki C, Fujimoto Z, Okada K, Yamane H, Nojiri H (2013) "Crystallization and preliminary X-ray diffraction studies of the reduced form of the terminal oxygenase component of the Rieske nonhaem iron oxygenase system carbazole 1,9a-dioxygenase." **Acta Crystallogr. F Struct. Biol. Commun.** 69:1284-7
9. Suzuki C, Yun CS, Umeda T, Terabayashi T, Watanabe K, Yamane H, Nojiri H (2011) "Oligomerization and DNA-binding capacity of Pmr, a histone-like protein H1 (H-NS) family protein encoded on IncP-7 carbazole-degradative plasmid pCAR1." **Biosci. Biotechnol. Biochem.** 75:711-7
10. Yun CS, Suzuki C, Naito K, Takeda T, Takahashi Y, Sai F, Terabayashi T, Miyakoshi M, Shintani M, Nishida H, Yamane H, Nojiri H (2010) "Pmr, a histone-like protein H1 (H-NS) family protein encoded by the IncP-7 plasmid pCAR1, is a key global regulator that alters host function." **J. Bacteriol.** 192:4720-31