

CURRICULUM VITAE

NAME: Masahiro FUJITA 藤田雅弘

EDUCATION: 1992-1996, Polymer Chemistry, Faculty of Engineering, Kyoto University
1996-2001, Polymer Chemistry, Graduate School of Engineering, Kyoto University

DEGREES: Dr. Engineering, Kyoto University (京都大学)



APPOINTMENTS:

- 2001 : Postdoctoral Fellow, Polymer Chemistry Lab. (高分子化学研究室), RIKEN
- 2001-2006: Research Scientist, Polymer Chemistry Lab. (土肥高分子化学研究室), RIKEN
- 2006- : Research Scientist, Bioengineering Lab. (前田バイオ工学研究室), RIKEN
- 2007- : Visiting Associate Professor (客員准教授), Hokkaido University (北海道大学)

ACADEMIC ACTIVITIES:

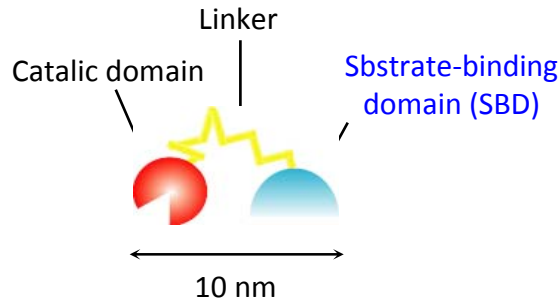
- Membership:
- The Society of Polymer Science, Japan
 - Japanese Society for Biomaterials
 - The Japanese Society for Synchrotron Radiation Research

PUBLICATIONS (selected):

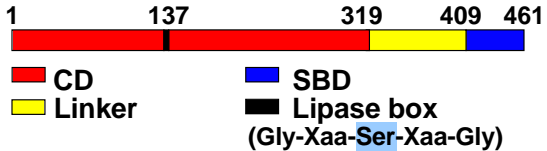
- 1) Matsumoto N, Fujita M^{*}, Hiraishi T, Abe H & Maeda M^{*}: Adsorption Characteristics of P(3HB) Depolymerase as Evaluated by Surface Plasmon Resonance and Atomic Force Microscopy. ***Biomacromolecules*** 9: 3201-3207, 2008
- 2) Fujita M^{*}, Sawayanagi T, Abe H, Tanaka T, Iwata T, Ito K, Fujisawa T & Maeda M: Stereocomplex Formation through Reorganization of Poly(L-lactic acid) and Poly(D-lactic acid) Crystals. ***Macromolecules*** 41: 2852-2858, 2008
- 3) Fujita M^{*}, Kobori Y, Aoki Y, Matsumoto N, Abe H, Doi Y & Hiraishi T: Interaction between PHB depolymerase and Biodegradable Polyesters Evaluated by Atomic Force Microscopy. ***Langmuir*** 21: 11829-11835, 2005

Intermolecular force of polymer-SBD

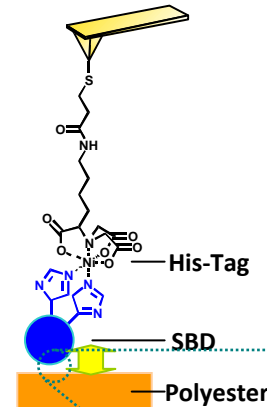
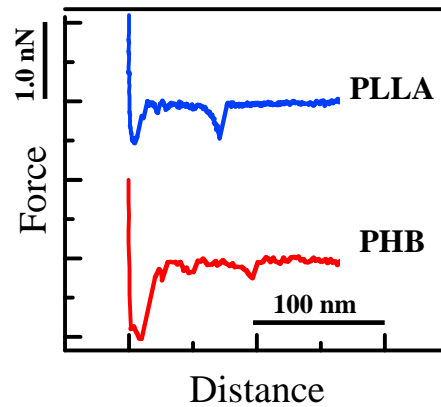
PHB depolymerase



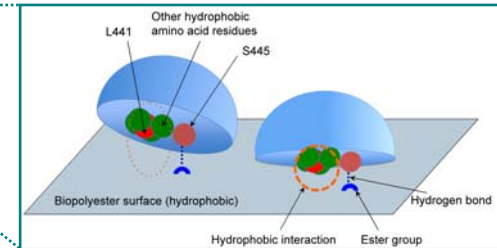
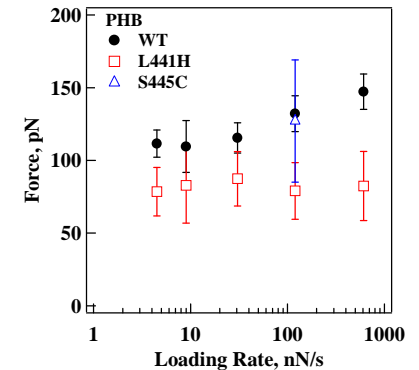
PHB depolymerase from *R. pickettii* T1



Force-distance measurement



Binding Force for PHB



In this study, we established a procedure to detect the interaction between PHB depolymerase and biodegradable polyester surfaces by AFM. Using AFM tips functionalized with SBD, the force-distance measurements to polyesters were carried out. The single rupture force was estimated at approximately 100 pN. The adsorption mechanism of SBD has been disclosed from the viewpoint of dynamics.