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**Education**

Degree: Ph.D. (Biotechnology), Ritsumeikan University, Japan

M.Eng. (Applied chemistry and Biotechnology) Ritsumeikan University, Japan

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**Field of interest:** Molecular Biotechnology and Enzyme Technology

**Current researches:**

1. Isolation, screening, and production of chitosanase producing microorganism.
2. Production and application of  $\alpha$ -1,3-glucanase
3. Production and application of lignocellolytic enzymes

#### 4. Production of chitooligosaccharides

##### **Publication: Review:**

**Suyotha, W.**, Yano, S., and Wakayama, M.  $\alpha$ -1,3-glucanase : present situation and prospect of research. 2016. *World J Microbiol Biotechnol.* 32(2). doi: 10.1007/s11274-015-1977-0.

##### **Article:**

Yano, S., **Suyotha, W.**, Honda, A., Takagi, K., Rattanakit-Chandet, N., Wakayama, M., and Tachiki, T. 2011. N-terminal region of chitinase I of *Bacillus circulans* KA-304 contained new chitin-binding domain. *Biosci. Biotechnol. Biochem.* 75(2):299-304.

**Suyotha, W.**, Yano, S., Takagi, K., Rattanakit-Chandet, N., Tachiki, T., and Wakayama, M. Domain structure and function of  $\alpha$ -1,3-glucanase from *Bacillus circulans* KA-304, an enzyme essential for degrading basidiomycete cell walls. 2013. *Biosci. Biotechnol. Biochem.* 77(3), 639-647.

**Suyotha, W.**, Yano, S., Itoh, T., Fujimoto, H., Hibi, T., Tachiki, T., and Wakayama, M. 2014. Characterization of  $\alpha$ -1,3-glucanase isozyme from *Paenibacillus glycanilyticus* FH11 in a new subgroup of family 87. *J Biosci Bioeng.* 118 (4), 378-385.

**Suyotha, W.**, Yano, S., and Wakayama, W. 2016.  $\alpha$ -1,3-glucanase : present situation and prospect of research. *World J Microbiol Biotechnol.* 32(2):30. doi: 10.1007/s11274-015-1977-0.

Boukaew, S., Petlamul, W., **Suyotha, W.**, and Prasertsan, P. 2016. Simultaneous fermentative chitinase and  $\beta$ -1,3 glucanase production from *Streptomyces philanthi* RM-1-1-38 and their antifungal activity against rice sheath blight disease. *BioTechnologia.* 97(4): 271-284.

**Suyotha, W.**, Fujiki, H., Cherdvorapong, V., Takagi, K., Yano, S., Wakayama, M. 2017. A novel thermostable  $\alpha$ -1,3-glucanase from *Streptomyces thermodiastaticus* HF 3-3. *J. Gen. Appl. Microbiol.*, 63(2): 296-304.

Take, K., Fujiki, H., **Suyotha, W.**, Hayashi, J., Takagi, K., Yano, S., Wakayama, M. (2018) Enzymatic and molecular characterization of an acidic and thermostable chitinase 1 from *Streptomyces thermodiastaticus* HF 3-3. *J. Gen. Appl. Microbiol.* 64(4):190-197. doi: 10.2323/jgam.2017.12.002.

Yano, S., **Suyotha, W.**, Zanma, S., Konno, H., Cherdvorapong, V., Wakayama, M. (2018) Deletion of uncharacterized domain from  $\alpha$ -1,3-glucanase of *Bacillus circulans* KA-304

enhances heterologous enzyme production in *Escherichia coli*. J. Gen. Appl. 64(5) : 212-220. Microbiol. doi; 10.2323/jgam.2017.12.005.

Intuy, R, Itoh, T., **Suyotha, W.**, Hayashi, J., Yano, S., Makabe, K., Wakayama, M, Hibi, T. X-ray crystallographic analysis of the catalytic domain of  $\alpha$ -1,3-glucanase FH1 from *Paenibacillus glycanilyticus* overexpressed in *Brevibacillus choshinensis*. Acta Crystallogr. F. Struct. Biol. Commun. 74 ( Pt 12) : 770-773. doi: 10.1107/S2053230X18013109.

Yano, S., Hori, Y., Kijima, T., Konno, K., **Suyotha, W.**, Takagi, K., Wakayama, W. 2019. Construction of Cellulose Binding Domain Fusion FMN-Dependent NADH-dependent Azoreductase and Glucose 1-Dehydrogenase for the Development of Flow Injection Analysis with Fusion Enzymes Immobilized on Cellulose. J. Appl. Glycosci., 66: 65-72.

#### **Presentation:**

**Suyotha, W.**, Tanikawa, M., Yano, S., Tachiki, T. and Wakayama M. Cloning and expression of D-Alanine-D-alanine ligase gene of *Lactobacillus fermentum* NBRC3959. Capacity Building and Development of Microbial Potential and Fermentation Technology towards New Era. 10-11 October 2009. Yamaguchi, Japan. (International oral presentation)

**Suyotha, W.**, Tanikawa, M., Yano, S., and Wakayama M. Characterization of D-alanine-D-alanine ligase from *Lactobacillus fermentum* NBRC 3959. International Chemical Congress of Pacific Basin Societies. 15-20 December 2010, Honolulu, Hawaii, USA. (International poster presentation)

**Suyotha, W.**, Yano, S., Tachiki, T., and Wakayama, M. Structure domain of  $\alpha$ -1,3-glucanase from *Bacillus circulans* KA-304. The Annual Meeting of Japan Society for Bioscience, Biotechnology and Agrochemistry. 22-26 March 2012. Kyoto, Japan. (International oral presentation)

**Suyotha, W.**, Yano, S., Tachiki, T., and Wakayama, M. N-terminal region of  $\alpha$ -1,3-glucanase from *Bacillus circulans* KA-304. 15th International Biotechnology Symposium and Exhibition. 16-21 September 2012, Daegu, Korea. (International oral presentation)

**Suyotha, W.**, Yano, S., Fujimoto, H., Tachiki, T., and Wakayama, M. Cloning and expression of the novel  $\alpha$ -1,3-glucanase gene from *Paenibacillus* sp. FH11, The Annual Meeting of Japan Society for Biotechnology. 18-20 September 2013. Hiroshima, Japan.  
(International poster presentation)

**Suyotha, W.**, Yano S., Kubo, M. and Wakayama M. Characterization of  $\alpha$ -1,3-glucanase isozyme from *Paenibacillus glycanilyticus* FH11, first characterized enzyme in a new subgroup of family 87. The 1st Joint Seminar of New Core to Core Program A. Advanced Research Networks on Establishment of an International Research Core for Bio-research Fields with Microbes from Tropical Areas (Part of The Thailand Research EXPO 2014). 10-11 August 2014, Bangkok, Thailand. (International poster presentation)

**Suyotha, W.**, Yano S., Kubo, M. and Wakayama M. Enhanced the stability of the catalytic domain of novel  $\alpha$ -1,3 glucanase from *Paenibacillus glycanilyticus* with *Brevibacillus* expression system. The 6th International Conference on Fermentation Technology for Value Added Agricultural Products. 29 - 30 July 2015, Khon Kaen, Thailand.  
(International oral presentation)

Huynh Ngoc, T., H-Kittikun A., Wakayama M., and **Suyotha, W.** Isolation and screening of a novel microorganism for chitosanase production. The 2<sup>nd</sup> Joint Seminar of New Core to Core Program A. Advanced Research Networks. 14th – 15th November 2016 at Saensuk Room1-2, Bangsaen Heritage Hotel, Chonburi, Thailand. (International poster presentation)

Huynh, N.T. and **Suyotha, W.** Optimization of chitosanase production by a newly isolated *Lentzea* sp. OUR-I1 in submerged fermentation. The 13th Asian Congress on Biotechnology 2017 (ACB2017) “Bioinnovation and Bioeconomy”. 23<sup>rd</sup> – 27<sup>th</sup> July 2017 at Pullman Khon Kaen Raja Orchid Hotel, Khon Kaen, Thailand. (International poster presentation)

**Suyotha, W.** and Huynh, N.T. Production of antimicrobial agent by chitosanolytic enzyme from *Lentzea* sp. OUR-I1. The International Conference on Food and Applied Bioscience 2018 (FAB 2018). 1st – 2nd February 2018 at The Empress Hotel, Chiang Mai, Thailand. (International poster presentation)