



UNIVERSITAS
GADJAH MADA

ANALISIS POTENSI SENYAWA ORGANIK VOLATIL *Streptomyces* sp. GMR22 DAN GMY01 SEBAGAI

ANTIJAMUR DENGAN

MENGGUNAKAN PENDEKATAN GENOME MINING

Nadya Annisa Perwitasari, Ir. Jaka Widada, M.P., Ph.D.; Ir. Donny Widianto, Ph.D.

Universitas Gadjah Mada, 2022 | Diunduh dari <http://etd.repository.ugm.ac.id/>

DAFTAR PUSTAKA

- Akila, R., Rajendran, L., Harish, S., Saveetha, K., Raguchander, T., and Samiyappan, R. 2011. Combined application of botanical formulations and biocontrol agents for the management of *Fusarium oxysporum* f. sp. *cubense* (Foc) causing Fusarium wilt in banana. *Biological Control* 57(3): 175–183.
- Ayed, A., Kalai-Grami, L., Slimene, I. B., Chaouachi, M., Mankai, H., Karkouch, I., Djebali, N., Elkahoui, S., Tabbene, O., and Limam, F. 2021. Antifungal activity of volatile organic compounds from *Streptomyces* sp. strain S97 against *Botrytis cinerea*, *Biocontrol Science and Technology* 31(12): 1330–1348.
- Barka, E. A., Vatsa, P., Sanchez, L., Gaveau-Vaillant, N., Jacquard, C., Klenk, H. P., Clément, C., Ouhdouch, Y., and van Wezel, G. P. 2016. Taxonomy, physiology, and natural products of *Actinobacteria*. *Microbiology and Molecular Biology Reviews* 80(1): 1–43.
- Choudoir, M., Rossabi, S., Gebert, M., Helmig, D., and Fierer, N. 2019. A phylogenetic and functional perspective on volatile organic compound production by *Actinobacteria*. *mSystems* 4(2): e00295-18.
- Claessen, D., Rozen, D. E., Kuipers, O. P., Søgaard-Andersen, L., and van Wezel, G. P. 2014. Bacterial solutions to multicellularity: a tale of biofilms, filaments and fruiting bodies. *Nature Reviews Microbiology* 12: 115–124.
- Corral, D. A. P., Paz, J. de J. O., Orozco, G. I. O., Muñiz, C. H. A., Marina, M. A. S., Cisneros, M. F. R., Corral, F. J. M., Pavía, S. P. F., and Velasco, C. R. 2020. Antagonistic effect of volatile and non-volatile compounds from *Streptomyces* strains on cultures of several phytopathogenic fungi. *Emirates Journal of Food and Agriculture* 32: 12, 879–889.
- Dita, M., Barquero, M., Heck, D., Mizubuti, E. S. G., and Staver, C. P. 2018. Fusarium wilt of banana: current knowledge on epidemiology and research needs toward sustainable disease management. *Frontiers in Plant Science* 9: 1468.
- Ismaila, A. A., Ahmad, K., Siddique, Y., Wahab, M. A. A., Kutawa, A. B., Abdullahi, A., Zobir, S. A. M., Abdu, A., and Abdullah, S. N. A. 2022. Fusarium wilt of banana: current update and sustainable disease control using classical and essential oils approaches. *Horticultural Plant Journal Pre-proof*.
- Lam, K. S. 2006. Discovery of novel metabolites from marine Actinomycetes. *Current Opinion in Microbiology* 9: 245–251.



ANALISIS POTENSI SENYAWA ORGANIK VOLATIL *Streptomyces* sp. GMR22 DAN GMY01 SEBAGAI ANTIJAMUR DENGAN MENGGUNAKAN PENDEKATAN GENOME MINING

Nadya Annisa Perwitasari, Ir. Jaka Widada, M.P., Ph.D.; Ir. Donny Widianto, Ph.D.

UNIVERSITAS GADJAH MADA

Universitas Gadjah Mada, 2022 | Diunduh dari <http://etd.repository.ugm.ac.id/>

Li, N., Chen, S., Yan, Z., Han, J., Ta, Y., Pu, T., Wang, Y. 2021. Antimicrobial activity and identification of the biosynthetic gene cluster of X-14952B from *Streptomyces* sp. 135. *Frontiers in Microbiology* 2(12):703093.

Nel, B., Steinberg, C., Labuschagne, N., and Viljoen, A., 2007. Evaluation of fungicides and sterilants for potential application in the management of Fusarium wilt of banana. *Crop Protection* 26(4): 697–705.

Pegg, K. G., Coates, L. M., O'Neill, W. T., and Turner, D. W. 2019. The epidemiology of Fusarium wilt of banana. *Frontiers in Plant Science* 10: 1395.

Qi, D., Zou, L., Zhou, D., Zhang, M., Wei, Y., Zhang, L., Xie, J. and Wang, W. 2021 Identification and antifungal mechanism of a novel actinobacterium *Streptomyces huiliensis* sp. nov. against *Fusarium oxysporum* f. sp. *cubense* Tropical Race 4 of Banana. *Frontiers in Microbiology* 12: 722661.

Siamak, S. B. and Zheng, S. 2018. Banana Fusarium wilt (*Fusarium oxysporum* f. sp. *cubense*) control and resistance, in the developing wilt-resistant bananas within sustainable production systems. *Horticultural Plant Journal* 4: 208–218

Wang, C., Wang, Z., Qiao, X., Li, Z., Li, F., Chen, M., Wang, Y., Huang, Y., and Cui, H. 2013. Antifungal activity of volatile organic compounds from *Streptomyces alboflavus* TD-1. *FEMS Microbiology Letters* 341(1): 45–51.

Wei, Y., Zhao, Y., Zhou, D., Qi, D., Li, K., Tang, W., Chen, Y., Jing, T., Zang, X., Xie, J. and Wang, W. 2020. A newly isolated *Streptomyces* sp. YYS-7 with a broad-spectrum antifungal activity improves the banana plant resistance to *Fusarium oxysporum* f. sp. *cubense* Tropical Race 4. *Frontiers in Microbiology* 11: 1712.