

DAFTAR PUSTAKA

- Aditama, A. P. R., Kusumaningtyas, R., Karimah, W. N., Paramita, D. R. A., Rashati, D., & Muslikh, F. A. (2024). Formulasi Dan Uji Stabilitas Fisik Sediaan Masker Wajah Gel *Peel-Off* Ekstrak Kulit Buah Naga Merah (*Hylocereus polyrhizus*). *Jurnal Riset Kefarmasian Indonesia*, 6(1), 79–96. <https://doi.org/10.33759/jrki.v6i1.467>
- Agata, S. D., & Jayadi, L. (2022). Formulasi Lulur *Body Scrub* Beras Ketan Hitam (*Oryza Sativa* Var. *Glutinosa*) Dengan Perpaduan Yogurt Sebagai Zat Aktif. *Jurnal Riset Kefarmasian Indonesia*, 4(3), 332–352. <https://doi.org/10.33759/jrki.v4i3.293>
- Al-Haq, F. A.-S., Yuliawati, K. M., & Lukmayani, Y. (2022). Penelusuran Pustaka Ekstrak Bonggol dan Kulit Buah Nanas (*Ananas comosus* L. Merr.) sebagai Antibakteri. *Bandung Conference Series: Pharmacy*, 2(2), 145–153. <https://doi.org/10.29313/bcsp.v2i2.3626>
- Anggy, F., Maulidai, A. I., Ramzi, A., & Ihtisyam, Z. H. (2024). Tinjauan pustaka tentang bromhidrosis. *Jurnal Medika Hutama*, 05(02), 1260–1265.
- Aprilia, D., Nurjanah, S., & Lembong, E. (2022). Uji Aktivitas Antibakteri Minyak Akar Wangi Metode Penyulingan Uap Terhadap *Escherichia coli* dan *Pseudomonas aeruginosa*. *Jurnal Teknotan*, 16(2), 109. <https://doi.org/10.24198/jt.vol16n2.7>
- Aris Ma'ruf, Endang Safitri, Retna Yulrosly Ningtias, Fernanda Desmak Pertiwi, & Firman Rezaldi. (2022). Antibakteri Gram Positif Dan Negatif Dari Sediaan Sabun Cuci Piring Fermentasi Kombucha Bunga Telang (*Clitoria Ternatea* L) Sebagai Produk Bioteknologi Farmasi. *Jurnal Kesehatan Dan Kedokteran*, 1(2), 16–25. <https://doi.org/10.56127/jukeke.v1i2.115>
- Binbin, L., Xufeng, W., & Ping, W. (2024). Microorganisms and bacterial cellulose stability of Kombucha under different manufacture and storage conditions. *Journal of Food Science*. <https://doi.org/10.1111/1750-3841.16975>
- Coelho, R. M. D., Almeida, A. L. de, Amaral, R. Q. G. do, Mota, R. N. da, & Sousa, P. H. M. d. (2020). Kombucha: Review. *International Journal of Gastronomy and Food Science*, 22(October), 100272. <https://doi.org/10.1016/j.ijgfs.2020.100272>
- Dina, P., Kulla, K., Ula, I. M., Samaniyah, S., & Rosdiana, E. (2025). Uji Aktivitas Antibakteri Ekstrak Etanol Kulit Buah Manggis (*Garcinia mangostana* L.) Terhadap Bakteri *Staphylococcus epidermidis* Antibacterial Activity Test Of Mangosteen (*Garcinia mangostana* L.) Ethanol Extract Against *Staphylococcuse epidermidis*. 11(01), 263–272.
- Dwiastuti, R., & Ardiyati, S. E. (2020). Formulasi Sediaan Gel Nanopartikel Lipid Ekstrak Daun Bi- Nahong (*Anredera cordifolia* (Ten.) Steenis). 3(2), 40–46. <https://doi.org/10.35799/pmj.3.2.2020.32879>
- Dzulqaidah, I., Zanuba, R. B., Alwi, A. S. F., Salsabila, A. R. P., Mursidi, S., & Muliasari, H. (2021). Ekstraksi dan Uji Aktivitas Enzim Bromelin Kasar dari Buah Nanas. *Journal of Agritechnology and Food Processing*, 1(2), 80.

<https://doi.org/10.31764/jafp.v1i2.6974>

- Effendi, F., P. Roswiem, A., & Stefani, E. (2014). Uji Aktivitas Antibakteri Teh Kombucha Probiotik Terhadap Bakteri *Escherichia coli* dan *Staphylococcus aureus*. *FITOFARMAKA: Jurnal Ilmiah Farmasi*, 4(2), 1–9. <https://doi.org/10.33751/jf.v4i2.185>
- Fadillah, F. M., Rezaldi, F., Kolo, Y., Hidayanto, F., Mubarak, S., Studi, P., Pangan, T., Program, S., Agroteknologi, F., Pertanian, M., Pasuruan, J., Timur, I., Program,), & Tanaman, S. B. (2023). Antibakteri Pada Produk Bioteknologi Farmasi Berupa Formulasi Dan Sediaan Sabun Mandi Gel Kombucha Buah Nanas Madu Subang. *Pharmacy Medical Journal*, 6(2), 84.
- Farhamzah, F., & Khofifah, K. (2023). Formulasi Deodoran Roll On Ekstrak Metanol Buah Mahkota Dewa (*Phaleria macrocarpa*) Dan Uji Efektivitas Antibakteri Terhadap *Staphylococcus aureus* dan *Staphylococcus epidermidis*. *Journal of Pharmacopolium*, 5(3), 0–5. <https://doi.org/10.36465/jop.v5i3.1014>
- Fatimah, N. (2018). Aktivitas dan Stabilitas Enzim Bromelain Kasar Mahkota Buah Nanas (*Ananas comosus* (L.) Merr.). <http://repository.unfari.ac.id/xmlui/handle/123456789/258>
- Firdaus, S., Indah, A., Isnaini, L., & Aminah, S. (2020). “Review” Teh Kombucha Sebagai Minuman Fungsional dengan Berbagai Bahan Dasar Teh. *Prosding Seminar Nasional Unimus*, 3(2013), 715–730.
- Fitriana, Y. A. N., Fatimah, V. A. N., & Fitri, A. S. (2020). Aktivitas Anti Bakteri Daun Sirih: Uji Ekstrak KHM (Kadar Hambat Minimum) dan KBM (Kadar Bakterisidal Minimum). *Sainteks*, 16(2), 101–108. <https://doi.org/10.30595/sainteks.v16i2.7126>
- Gaggia, F., Baffoni, L., Galiano, M., Nielsen, D. S., Jakobsen, R. R., Leonardo, J., Bosi, S., Truzzi, F., Musumeci, F., Dinelli, G., & Gioia, D. Di. (2018). Kombucha Beverage from Green, Black and Rooibos Teas: A Comparative Study Looking at Microbiology, Chemistry and Antioxidant Activity. 1–22. <https://doi.org/10.3390/nu11010001>
- Gultom, T., Tobing, V. E. E. L., Fadila, D., Fahira, F., Hidayat, R., & Sitorus, R. B. T. (2020). *Buku Pedoman Pengeringan Buah Nenas Sipahutar*. Yayasan Kita Menulis.
- Gunawan, H. C., Yusliana, Y., Daeli, P. J., Sarwendah, S., & Chiuman, L. (2019). Uji Antibakteri Air Perasan Daging Buah Nanas (*Ananas Comosus* (L) Merr) terhadap Bakteri *Staphylococcus aureus*. *Jurnal Kedokteran Dan Kesehatan*, 15(2), 170. <https://doi.org/10.24853/jkk.15.2.170-177>
- Hajrin, W., Subaidah, W. A., Julianтони, Y., & Wirasisya, D. G. (2021). Application of Simplex Lattice Design Method on The Optimisation of Deodorant Roll-on Formula of Ashitaba (*Angelica keiskei*). *Jurnal Biologi Tropis*, 21(2), 501–509. <https://doi.org/10.29303/jbt.v21i2.2717>
- Hakim, Z. R., Meliana, D., & Utami, P. I. (2020). Formulasi dan Uji Sifat Fisik Sediaan Lulur Krim dari Ekstrak Etanol Daun Sirsak (*Annona muricata* L.) serta Penentuan Aktivitas Antioksidannya. *Jurnal Sains Farmasi & Klinis*, 7(2), 135. <https://doi.org/10.25077/jsfk.7.2.135-142.2020>
- Herman, R., Kinniment-Williams, B., Rudden, M., James, A. G., Wilkinson, A. J.,

- Murphy, B., & Thomas, G. H. (2024). Identification Of A Staphylococcal Dipeptidase Involved In The Production Of Human Body Odor. *Journal of Biological Chemistry*, 300(12), 107928. <https://doi.org/10.1016/j.jbc.2024.107928>
- Jayabalan, R., Malbañ, R. V., Lonñ, E. S., Vitas, J. S., & Sathishkumar, M. (2014). A Review on Kombucha Tea — Microbiology, Composition, Fermentation, Beneficial Effects, Toxicity, and Tea Fungus. 13. <https://doi.org/10.1111/1541-4337.12073>
- Juwitaningsih, T., Sri Adelia Sari, Iis Siti Jahro, & Neneng Windayani. (2021). Phytochemical Analysis And Antibacterial Activity Of Acetone Extract Of Secang (*Caesalpinia sappan* L). *Jurnal Jamu Indonesia*, 6(2), 68–74. <https://doi.org/10.29244/jji.v6i2.209>
- Kemenkes RI. (2020). Farmakope Indonesia edisi VI. In *Departemen Kesehatan Republik Indonesia*.
- Khoiriyah, N., Pambudi, D. B., Fajriyah, N. N., Mugiyanto, E., & Izzah, N. (2023). Carbopol-940 Improves the Physical Properties of Cocoa Peel Extract Emulgel (Vol. 2022). *Atlantis Press International BV*. https://doi.org/10.2991/978-94-6463-284-2_33
- Komala, O., Wiendarlina, I. Y., & Rizqiya, N. (2019). Antibacterial Activity Roll On Deodorant With *Pluchea indica* (L.) Leaf Extract Against *Staphylococcus epidermidis* (Evans 1916) In Vitro. *IOP Conference Series: Earth and Environmental Science*, 293(1), 1–8. <https://doi.org/10.1088/1755-1315/293/1/012031>
- Lailiyah, M., Sukmana, P. H., & P, E. Y. (2019). Formulasi Deodoran Roll On Ekstrak Daun Waru (*Hibiscus Tiliaceus* L.) pada Konsentrasi 3%;5%;8% dan Uji Aktivitas Terhadap Bakteri *Staphylococcus aureus*. *Cendekia Journal of Pharmacy*, 3(2), 106–114. <https://doi.org/10.31596/cjp.v3i2.48>
- Lubis, E. R. (2020). *Hujan Rezeki Budi Daya Nanas*. Bhuna Ilmu Populer. https://books.google.co.id/books?id=OzEIEAAQBAJ&pg=PA18&hl=id&source=gbps_selected_pages&cad=1#v=onepage&q&f=false
- Maslii, Y., Ruban, O., Kasparaviciene, G., Kalveniene, Z., Materiienko, A., Ivanauskas, L., Mazurkeviciute, A., Kopustinskiene, D. M., & Bernatoniene, J. (2020). The Influence of pH Values on the Rheological, Textural and Release Properties of Carbomer Polacril® 40P-Based Dental Gel Formulation with Plant-Derived and Synthetic Active Components. *Molecules* (Basel, Switzerland), 25(21). <https://doi.org/10.3390/molecules25215018>
- Mnctrijaya.com. (2024). *Unik, KetekBasah Trending Topik di X Ini Penyebabnya*. Mnctrijaya.Com. <https://www.mnctrijaya.com/news/detail/67579/unik-ketekbasah-trending-topik-di-x-ini-penyebabnya>
- Monica, D. T., Aprilya, R., & Anggun, S. (2024). Inovasi dan Karakteristik BAL Limbah Bonggol Nanas dalam Menghasilkan Enzim Bromelin. 96–106.
- Muhsinin, S., Pertiwi, T. W., & Zaelani, D. (2023). Transdermal Patch Formulation from Kombucha Green Tea as an Antibacterial *Staphylococcus aureus*. *Jurnal Ilmiah Farmasi (Scientific Journal of Pharmacy)*, 19(2), 220–231. <http://journal.uui.ac.id/index.php/JIF>

- Mussi, L., Baby, A. R., Nogueira, C., de Camargo Junior, F. B., & Magalhães, W. V. (2024). Deodorant Efficacy of Xylityl Sesquicaprylate Vehiculated into Roll-on and Stick Prototype Formulations. *Cosmetics*, 11(3), 1–8. <https://doi.org/10.3390/cosmetics11030088>
- Nazila Khoerunnisa, Nadia Shinta Purnomo, & Firdha Senja Maelaningsih. (2024). Review Artikel : Analisis Dan Formulasi Deodoran Berbahan Dasar Herbal Terhadap Kenyamanan Kulit. *Detector: Jurnal Inovasi Riset Ilmu Kesehatan*, 2(1), 157–166. <https://doi.org/10.55606/detector.v2i1.3174>
- Nirmalasari, F., Nastiti, K., & Audina, M. (2023). Uji Aktivitas Antibakteri Fraksi N-Heksan Kayu Bajakah (*Uncaria tomentosa*) Terhadap Bakteri *Escherichia coli*. *Journal Pharmaceutical Care and Sciences*, 3(2), 55–62. <https://doi.org/10.33859/jpcs.v3i2.239>
- Nyhan, L. M., Lynch, K. M., Sahin, A. W., & Arendt, E. K. (2022). Advances in Kombucha Tea Fermentation: A Review. *Applied Microbiology*, 2(1), 73–103. <https://doi.org/10.3390/applmicrobiol2010005>
- Pertiwi, F. D., Rezaldi, F., & Puspitasari, R. (2022). Uji Aktivitas Antibakteri Ekstrak Etanol Bunga Telang (*Clitoria ternatea* L.) Terhadap Bakteri *Staphylococcus epidermidis*. *Biosaintropis (Bioscience-Tropic)*, 7(2), 57–68. <https://doi.org/10.33474/e-jbst.v7i2.471>
- Pormohammad, A., Hansen, D., & Turner, R. J. (2022). Antibacterial, Antibiofilm, and Antioxidant Activity of 15 Different Plant-Based Natural Compounds in Comparison with Ciprofloxacin and Gentamicin. *Antibiotics*, 11(8). <https://doi.org/10.3390/antibiotics11081099>
- Pratiwi, S. (2008). *Mikrobiologi Farmasi*. Erlangga.
- Pubchem. (n.d.). *DMDM Hydantoin*. National Library of Medicine. <https://pubchem.ncbi.nlm.nih.gov/compound/DMDM-Hydantoin>
- Putra, R. F. . P., Rezaldi, F., Fadillah, M. F., Priyoto, P., & Sumiardi, A. (2023). Antibakteri Penyebab Bau Ketiak (*Staphylococcus hominis*) Dari Sediaan Sabun Mandi Kombucha Bunga Telang (*Clitoria ternatea* L) Sebagai Produk Bioteknologi Farmasi. *Agrinula : Jurnal Agroteknologi Dan Perkebunan*, 6(1), 1–14. <https://doi.org/10.36490/agri.v6i1.613>
- Rosmania, & Yanti, F. (2020). Jurnal Penelitian Sains. *Jurnal Penelitian Sains*, 21(3), 163–167. <http://ejurnal.mipa.unsri.ac.id/index.php/jps/index>
- Rosyada, F. F. A., Agustina, E., & Faizah, H. (2023). Pengaruh Konsentrasi Gula Terhadap Karakteristik Fisika, Kimia dan Aktivitas Antioksidan Teh Kombucha Daun Belimbing Wuluh (*Avverhoa bilimbi* Linn.). *Rekayasa*, 16(1), 27–34. <https://doi.org/10.21107/rekayasa.v16i1.16977>
- Sheskey, P. J., G, C. W., & C.G., C. (2017). *Hanbook of pharmaceutical excipients eighth edition*.
- Sidek, N. A. M., Husain, K., Buang, F., & Mohd Said, M. (2023). Antiperspirant and Antibacterial Activities of Curcuma xanthorrhiza Extract as a Potential Alternative Treatment for Hyperhidrosis. *Separations*, 10(6). <https://doi.org/10.3390/separations10060324>
- Sundari, I. (2020). Karakteristik Morfologi dan Kualitas Buah Tanaman Nanas (*Ananas comosus* (L.) Merr.) Lokal di Kabupaten Siak. *Fakultas Pertanian Dan Peternakan Universitas Islam Negeri Sultan Syarif Kasim Riau*

Pekanbaru, 34.

- Susanti, L., Widodo, S., Aini, Q., & Rahmawati, D. (2017). Antibacterial Activity From Cucumber (*Cucumis sativus* .L) Ethanol Extract In Deodorant Roll On Dosage Form. *Indonesian Journal of Pharmaceutical Science and Technology*, 1(1), 15. <https://doi.org/10.15416/ijpst.v1i1.10430>
- Susanti, S., Rizqiaty, H., Lisandi, I. F., Nuryanto, & Arifan, F. (2022). Optimization of Bromelain Isolation from Honi Pineapple Crown. *International Journal of Food Studies*, 11(2), 287–295. <https://doi.org/10.7455/ijfs/11.2.2022.a3>
- Tafonao, T. O. (2019). Formulasi Dan Uji Aktivitas Antibakteri Ekstrak Etanol Kulit Jeruk Nipis (*Citrus aurantifolia* (Christm.) Swingle) Dalam Sediaan Deodoran Terhadap *Staphylococcus epidermidis*.
- Teerasumran, P., Velliou, E., Bai, S., & Cai, Q. (2023). Deodorants and antiperspirants: New trends in their active agents and testing methods. *International Journal of Cosmetic Science*, 45(4), 426–443. <https://doi.org/10.1111/ics.12852>
- Tjiptoningsih, U. G., & Trisanto, N. K. (2022). Pengaruh Pemberian Ekstrak Buah Nanas (*Ananas comosus*) Terhadap Bakteri *Aggregatibacter actinomycetemcomitans* Secara In Vitro. *Jurnal Ilmiah Dan Teknologi Kedokteran Gigi*, 18(1), 24–30. <https://doi.org/10.32509/jitekgi.v18i1.1377>
- United States Department of Agriculture. (n.d.). *Staphylococcus epidermidis*. <https://acir.aphis.usda.gov/s/cird-taxon/a0u3d000000BELrAAO/staphylococcus-epidermidis>
- United States Department of Agriculture. (n.d.). *Taxon_ Ananas comosus*.
- Vernando, R., Mahyarudin, M., & Rialita, A. (2023). Aktivitas Antimikroba Bakteri Endofit Daun Pegagan (*Centella asiatica* L.) Terhadap *Propionibacterium acnes*. *Al-Kaunyah: Jurnal Biologi*, 16(1), 53–63. <https://doi.org/10.15408/kaunyah.v16i1.20276>
- Wahyuningsih, S., Auliah, N., & Salwi, S. (2020). Mouthwash Jus Buah Nanas (*Ananas comosus* L. Merr) Terhadap Bakteri *Streptococcus mutans*. *Jurnal Kesehatan*, 13(2), 171. <https://doi.org/10.24252/kesehatan.v13i2.16423>
- Yan, J. H., Zheng, D. W., Gu, H. Y., Yu, Y. J., Zeng, J. Y., Chen, Q. W., Yu, A. X., & Zhang, X. Z. (2023). In Situ Sprayed Biotherapeutic Gel Containing Stable Microbial Communities for Efficient Anti-Infection Treatment. *Advanced Science*, 10(4), 1–15. <https://doi.org/10.1002/advs.202205480>
- Zakaria, Z., & Qurrota, S. S. A. (2024). Identifikasi Aktivitas Enzim Nanas (*Ananas comosus*) Dan Pepaya (*Carica papaya*) Pada Agar-Agar Dan Gelatin. *Jurnal Redoks : Jurnal Pendidikan Kimia Dan Ilmu Kimia*, 7(1), 26–34. <https://doi.org/10.33627/re.v7i1.1634>

LAMPIRAN

Lampiran 1. Data uji aktivitas antibakteri kombucha

Konsentrasi (%)	Zona Hambat (mm)				
	1	2	3	Rata-rata	Kategori
15	5,7	1,7	5,4	4,266±2,227	Lemah
20	7,2	2,5	4,3	4,666±2,371	Lemah
50	9,8	3,8	5,5	6,366±3,092	Sedang
100	10,2	4,2	9,4	7,933±3,25	Sedang
Kontrol + (antibiotik)	13,7	15,6	15	14,766±0,971	Kuat
Kontrol + (deo natural di pasaran)	5,4	8,4	7,9	7,233±1,607	Sedang
Kontrol –	0	0	0	0	Lemah

Descriptives

Diameter

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
K15	3	4.267	2.2279	1.2863	-1.268	9.801	1.7	5.7
K20	3	4.667	2.3714	1.3691	-1.224	10.557	2.5	7.2
K50	3	6.367	3.0925	1.7854	-1.315	14.049	3.8	9.8
K100	3	7.933	3.2578	1.8809	-.160	16.026	4.2	10.2
K+ab	3	14.767	.9713	.5608	12.354	17.179	13.7	15.6
K+deo	3	7.233	1.6073	.9280	3.241	11.226	5.4	8.4
Total	18	7.539	4.1091	.9685	5.495	9.582	1.7	15.6

Tests of Normality

	Formula	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Diameter	K15	.361	3	.	.806	3	.129
	K20	.228	3	.	.982	3	.743
	K50	.277	3	.	.941	3	.532
	K100	.340	3	.	.848	3	.235
	K+ab	.262	3	.	.957	3	.600
	K+deo	.328	3	.	.871	3	.298

a. Lilliefors Significance Correction