

DAFTAR PUSTAKA

- Akihary, C.V. dan Kolondam, B.J. 2020. Pemanfaatan Gen 16s rRNA Sebagai Perangkat Identifikasi Bakteri untuk Penelitian di Indonesia. *Pharmacon.* 9(1): 16-22.
- Alm, R.A. dan Lahiri, S.D., 2020. Narrow-spectrum Antibacterial Agents—Benefits and Challenges. *Antibiotics.* 9(7): 1-8.
- Anborgh, P.H., Okamura, S., dan Parmeggiani, A. 2004. Effects of The Antibiotic Pulvomycin on The Elongation Factor Tu-dependent Reactions. Comparison with Other Antibiotics. *Biochemistry.* 43(49): 15550-15556.
- Aniza, S. N., Andini, A., dan Lestari, I. 2019. Analisis Residu Antibiotik Tetrasiklin pada Daging Ayam Broiler dan Daging Sapi. *Jurnal SainHealth.* 3(2): 22-32.
- Ariyani, N. dan Sari, R.A. 2018. Doxycycline and Ciprofloxacin Resistance in *Escherichia coli* Isolated from Layer Feces. 2(1):1-6.
- Aziah, L.N., Indrawati, A., dan Wibawan, I. 2020. Keberhasilan Mendeteksi Gen Penyandi Resistensi Tetracycline dan Plasmid Mediated Quinolones pada Bakteri *Salmonella* Ayam di Bandung dan Purwakarta. *Jurnal Veteriner.* 21(2): 199-207
- Baquero, F., Martínez, J.L., dan Cantón, R. 2008. Antibiotics and Antibiotic Resistance in Water Environments. *Current Opinion in Biotechnology.* 19(3): 260-265.
- Bolton, D. dan Marcos, P. 2023. The Environment, Farm Animals and Foods as Sources *Clostridioides difficile* Infection in Humans. *Food Research Centre.* 12(5):1-19.
- Buelow, E., Rico, A., Gaschet, M., Lourenço, J., Kennedy, S.P., Wiest, L., Ploy, M.C., dan Dagot, C. 2020. Hospital Discharges in Urban Sanitation Systems: Long-Term Monitoring of Wastewater Resistome and Microbiota in Relationship to Their Eco-exposome. *Water Research X.* 7(1):1-12.
- Campioni, F., Souza, R.A., Martins, V.V., Stehling, E.G., Bergamini, A.M.M., dan Falcao, J.P. 2017. Prevalence of gyrA Mutations in Nalidixic Acid-Resistant Strains of *Salmonella Enteritidis* Isolated from Humans, Food, Chickens, and The Farm environment in Brazil. *Microbial Drug Resistance.* 23(4): 421-428.
- CIVAS, 2021. *Laporan Studi Resistensi Antimikroba dalam Rantai Pangan Ayam Potong.* CIVAS, Bogor.

- Cudkowicz, N. A. dan Schuldiner, S. 2019. Deletion of The Major *Escherichia coli* Multidrug Transporter AcrB Reveals Transporter Plasticity and Redundancy in Bacterial Cells. *PloS one.* 14(6): 1-13.
- Cui, L., Isii, T., Fukuda, M., Ochiai, T., Neoh, H.M., Camargo, I.L.B.D.C., Watanabe, Y., Shoji, M., Hishinuma, T., dan Hiramatsu, K. 2010. An RpoB Mutation Confers Dual Heteroresistance to Daptomycin and Vancomycin in *Staphylococcus aureus*. *Antimicrobial Agents and Chemotherapy.* 54(12): 5222-5233.
- Ecevit, K., Barros, A.A., Silva, J.M. dan Reis, R.L. 2022. Preventing Microbial Infections with Natural Phenolic Compounds. *Future Pharmacology.* 2(4): 460-498.
- Finley, R.L., Collignon, P., Larsson, D.J., McEwen, S.A., Li, X.Z., Gaze, W.H., Reid-Smith, R., Timinouni, M., Graham, D.W., dan Topp, E. 2013. The Scourge of Antibiotic Resistance: The Important Role of The Environment. *Clinical Infectious Diseases.* 57(5): 704-710.
- Food and Agriculture Organization (FAO). 2019. Preserving Critically Important Antibiotics for Humans, by Banning Their Use in Animals. <https://www.fao.org/indonesia/news/detail-events/en/c/1257265/>
Diakses 1 Januari 2024.
- Frosini, S.M., Bond, R., McCarthy, A.J., Feudi, C., Schwarz, S., Lindsay, J.A., dan Loeffler, A. 2020. Genes on The Move: *in vitro* Transduction of Antimicrobial Resistance Genes Between Human and Canine *Staphylococcal* Pathogens. *Microorganisms.* 8(12): 20-31.
- Frost, L.S., Leplae, R., Summers, A.O., dan Toussaint, A. 2005. Mobile Genetic Elements: The Agents of Open Source Evolution. *Nature Reviews Microbiology.* 3(9): 722-732.
- Gaurav, A., Bakht, P., Saini, M., Pandey, S., dan Pathania, R. 2023. Role of Bacterial Efflux Pumps in Antibiotic Resistance, Virulence, and Strategies to Discover Novel Efflux Pump Inhibitors. *Microbiology.* 169(5): 1-13.
- Grady, R. dan Hayes, F. 2003. Axe-Txe, a Broad-Spectrum Protein Toxin-Antitoxin System Specified by a Multidrug-Resistant, Clinical Isolate of *Enterococcus faecium*. *Molecular Microbiology.* 47(5): 1419-1432.
- Hadi, M. P., Fadlillah, L. N., Widasmara, M. Y., Muziasari, W. I., dan Subaryono. 2018. Potensi Sumber Bakteri Resisten Antibiotik Berdasarkan Kondisi Kualitas Air dan Penggunaan Lahan di Sungai Code, Yogyakarta: Suatu Tinjauan Metodologis. *Jurnal Pengelolaan Lingkungan Berkelanjutan.* 2(1): 88-101.
- Hauser, A. 2018. *Antibiotic Basics for Clinicians*. Lippincott Williams & Wilkins, New York.

- Huseby, D. L., Brandis, G., Alzrigat, L. P., dan Hughes, D. 2020. Antibiotic Resistance by High-level Intrinsic Supression of a Frameshift Mutation in An Essential Gene. *Microbiology*. 117(6): 3185-3191.
- Irmal, S. I. W. M., Subbiah, S. K., Neela, V. K., Taib, N. Z., Jasni, A. Z. S., Abdullah, M., Radzali, M. K., dan Hamat, R. A. 2020. The Differences Between the Expression Levels of Axe-Txe Genes in Chloramphenicol-Sensitive and Penicillin-Resistant *Enterococcus faecium* Isolates. *Sains Malaysiana*. 49(6): 1401-1410.
- Jayalakshmi, K., Paramasivam, M., Sasikala, M., Tamilam, T.V., dan Sumithra, A., 2017. Review on Antibiotic Residues in Animal Products and Its Impact on Environments and Human Health. *J Entomol Zool Stud*. 5(3): 1446-1451.
- Kamradt, A. T, Davies, T., Cronan, M., Jacobs, M.R., Appelbaum, P.C., dan Sutcliffe, J. 2000. Mutations in 23S rRNA and Ribosomal Protein L4 Account for Resistance in *Pneumococcal* Strains Selected in vitro by Macrolide Passage. *Antimicrobial Agents and Chemotherapy*. 44(8): 2118-2125.
- Katzung, B. G. 2017. *Basic and Clinical Pharmacology 14th Edition*. McGraw Hill, San Francisco.
- Kehrenberg, C. dan Schwarz, S. 2007. Mutations in 16S rRNA and Ribosomal Protein S5 Associated with High-level Spectinomycin Resistance in *Pasteurella multocida*. *Antimicrobial Agents and Chemotherapy*. 51(6): 2244-2246.
- Kemenkes RI. 2011. Bahaya Resistensi Antibiotik. https://yankes.kemkes.go.id/view_artikel/1411/bahaya-resistensi-antibiotik Diakses 10 Juli 2023
- Kemenkes RI. 2013. *Pedoman Umum Penggunaan Antibiotik*. Kemenkes RI, Jakarta.
- Kemenkes RI. 2015. Pengendalian Resistensi Antimikroba. <https://www.kemkes.go.id/article/view/17111500002/peningkatan-pelayanan-kefarmasian-dalam-pengendalian-resistensi-antimikroba-apoteker-ikut-atasi-masa.html> Diakses 17 Juli 2023
- Khan, R., Kong, H.G., Jung, Y.H., Choi, J., Baek, K.Y., Hwang, E.C., dan Lee, S.W. 2016. Triclosan Resistome from Metagenome Reveals Diverse Enoyl Acyl Carrier Protein Reductases and Selective Enrichment of Triclosan Resistance Genes. *Scientific reports*. 6(1): 1-13.
- Kilicaslan, G.Ç., Kaygusuz, Ö., Önder, İ.D.İ.L., dan Darcan, C. 2021. Investigation of the Role of cyaA/crp Genes of *Escherichia coli* in Metal Stress. *Adiyaman University Journal of Science*. 11(1): 1-22.
- Kim, H.B., Wang, M., Park, C.H., Kim, E.C., Jacoby, G.A., dan Hooper, D.C. 2009. oqxAB Encoding a Multidrug Efflux Pump in Human Clinical

- Isolates of *Enterobacteriaceae*. *Antimicrobial Agents and Chemotherapy*. 53(8): 3582-3584.
- Kurniawan. 2019. *Dasar-Dasar Analisis Kualitas Lingkungan*. Wineka Media, Jakarta.
- Lamaudière, M.T., Arasaradnam, R., Weedall, G.D. dan Morozov, I.Y. 2023. The Colorectal Cancer Gut Environment Regulates Activity of The Microbiome and Promotes the Multidrug Resistant Phenotype of ESKAPE and Other Pathogens. *Msphere*. 8(2): 1-19.
- Leeds, J. A., Sachdeva, M., Mullin, S., Dzink-Fox, J., dan LaMarche, M. J. 2012. Mechanism of Action of and Mechanism of Reduced Susceptibility to The Novel Anti-*Clostridium difficile* Compound LFF571. *Antimicrobial Agents and Chemotherapy*. 56(8): 4463-4465.
- Levy, S. B. 2008. *Antibiotic Resistance: An Ecological Imbalance*. Wiley, New York.
- Liu, S., Fang, R., Zhang, Y., Chen, L., Huang, N., Yu, K., Zhou, C., Cao, J., dan Zhou, T. 2021. Characterization of Resistance Mechanisms of *Enterobacter cloacae* Complex Co-resistant to Carbapenem and Colistin. *BMC microbiology*. 21(1): 1-10.
- Liu, Y., Xu, H., Xu, Z., Kudinha, T., Fan, X., Xiao, M., Kong, F., Sun, H., dan Xu, Y. 2015. High-level Macrolide-resistant *Moraxella catarrhalis* and Development of an Allele-specific PCR Assay for Detection of 23S rRNA Gene A2330T Mutation: a Three-year Study at a Chinese Tertiary Hospital. *Microbial Drug Resistance*. 21(5): 507-511.
- Lu, M., Gong, T., Zhang, A., Tang, B., Chen, J., Zhang, Z., Li, Y., dan Zhou, X. 2019. Mobile genetic elements in streptococci. *Current issues in molecular biology*. 32(1): 123-166.
- Lu, W., Wang, M., Wu, J., Jiang, Q., Jin, J., Jin, Q., Yang, W., Chen, J., Wang, Y. dan Xiao, M. 2020. Spread of Chloramphenicol and Tetracycline Resistance Genes by Plasmid Mobilization in Agricultural Soil. *Environmental Pollution*. 260(1):1-13.
- Lüthje, P., von Köckritz-Blickwede, M., dan Schwarz, S. 2007. Identification and Characterization of Nine Novel Types of Small *Staphylococcal* Plasmids Carrying the Lincosamide Nucleotidyltransferase Gene lnu(A). *Journal of Antimicrobial Chemotherapy*. 59(4): 600-606.
- Massora, M., Martani, E., Sugiharto, E., Sarwom, R., Sinaga, T., Supit, J.M., Sadsoeitoeben, M.J. dan Taberima, S. 2019. Deteksi Gen Bakteri Resisten Tembaga Asal Tailing PTFI. *Jurnal Natural*. 15(2): 94-102.
- Meutia, N. 2016. Residu Antibiotika dalam Air Susu Segar yang Berasal dari Peternakan di Wilayah Aceh Besar. *Jurnal Ilmu Ternak Universitas Padjadjaran*. 16(1): 1-5.

- Mieke, H.S. 2008. Multidrug resistance (MDR) bakteri terhadap antibiotik. *Jurnal Universitas Padjadjaran*. 1(1):1-7.
- Mohamadi, S., Rezaee, R., Hashemi, M., Kiani, B., Ghasemi, S., Alizadeh Sani, M. dan Afshari, A. 2023. Methicillin-Resistant *Staphylococcus aureus* (MRSA), Vancomycin-Resistant *Staphylococcus aureus* (VRSA), and Vancomycin-Resistant *Enterococci* (VRE) Contamination of Food Samples in Iran: A systematic Review and Meta-analysis. *Iranian Journal of Medical Microbiology*. 17(2):135-149.
- Munasir, Zakiudin. 2001. Respons Imun Terhadap Infeksi Bakteri. *Sari Pediatri*. 2(4):193-197.
- Muntasir, Abdulkadir, W. S., Harun, A. I., Tenda, P. E., Makkasau, Saksosno, R. Y., Fernandez, S., dan Wonga, T. M. 2021. *Antibiotik dan Resistensi Antibiotik*. Rizmedia, Jakarta.
- Musumeci, R., Calaresu, E., Gerosa, J., Oggioni, D., Bramati, S., Morelli, P., Mura, I., Piana, A., Are, B.M., dan Cocuzza, C.E. 2016. Resistance to Linezolid in *Staphylococcus spp.* Clinical Isolates Associated With Ribosomal Binding Site Modifications: Novel Mutation in Domain V of 23S rRNA. *New Microbiol*. 39(4): 269-273.
- Muurinen, J., Muziasari, W.I., Hultman, J., Parnanen, K., Narita, V., Lyra, C., Fadlillah, L.N., Rizki, L.P., Nurmi, W., Tiedje, J.M., dan Dwiprahasto, I. 2022. Antibiotic Resistomes and Microbiomes in The Surface Water Along The Code River in Indonesia Reflect Drainage Basin Anthropogenic Activities. *Environmental Science & Technology*. 56(21): 1-13.
- Nahar, L., Hagiya, H., Nada, T., Iio, K., Gotoh, K., Matsushita, O. dan Otsuka, F. 2023. Prevalence of Inducible Macrolide, Lincosamide, and Streptogramin B (inducible MLSB) Resistance in Clindamycin-Susceptible *Staphylococcus aureus* at Okayama University Hospital. *Acta Medica Okayama*. 77(1): 1-9.
- Neill, J. 2016. Tackling Drug-Resistant Infections Globally: Final Report and Recommendations.
- Nikaido, E., Yamaguchi, A., dan Nishino, K. 2008. AcrAB Multidrug Efflux pPmp Regulation in *Salmonella enterica serovar Typhimurium* by RamA in Response to Environmental Signals. *Journal of Biological Chemistry*. 283(35): 24245-24253.
- Nishino, K., Senda, Y., dan Yamaguchi, A. 2008. CRP Regulator Modulates Multidrug Resistance of *Escherichia coli* by Repressing the mdtEF Multidrug Efflux Genes. *The Journal of Antibiotics*. 61(3): 120-127.
- Nishino, K. dan Yamaguchi, A. 2004. Role of Histone-like Protein H-NS in Multidrug Resistance of *Escherichia coli*. *Journal of Bacteriology*. 186(5): 1423-1429.

- Normaliska, R. 2019. Pola Resistensi Antibiotik pada Escherichia coli Penghasil ESBL dari Sampel Lingkungan di RPH-R Kota Bogor. *Acta Veterinaria Indonesiana*. 7(2): 42-48.
- Norström, T., Lannergård, J., dan Hughes, D. 2007. Genetic and Phenotypic Identification of Fusidic Acid-Resistant Mutants with The Small-Colony-Variant Phenotype in *Staphylococcus aureus*. *Antimicrobial Agents and Chemotherapy*. 51(12): 4438-4446.
- Ocampo, P.S., Lázár, V., Papp, B., Arnoldini, M., Abel zur Wiesch, P., Busa-Fekete, R., Fekete, G., Pál, C., Ackermann, M., dan Bonhoeffer, S. 2014. Antagonism between Bacteriostatic and Bactericidal Antibiotics is Prevalent. *Antimicrobial Agents and Chemotherapy*. 58(8): 4573-4582.
- O'connor, M. dan Dahlberg, A.E. 2002. Isolation of Spectinomycin Resistance Mutations in The 16S rRNA of *Salmonella enterica* serovar *Typhimurium* and Expression in *Escherichia coli* and *Salmonella*. *Current Microbiology*. 45(1): 429-0433.
- Okpri, M. 2020. Analisa Penggunaan Antibiotik Pada Pasien Diare di Ruang Rawat Inap Penyakit Dalam RSUP Persahabatan. *Social Clinical Pharmacy Indonesia Journal*. 12(1): 135-145.
- Olivianti, A., Abidjulu, J., dan Koleangan, H. 2016. Dampak Limbah Peternakan Ayam terhadap Kualitas Air Sungai Sawangan Di Desa Sawangan Kecamatan Tombulu Kabupaten Minahasa. *Chemistry Progress*, 9(2): 45-49.
- Olson, R.D., Assaf, R., Brettin, T., Conrad, N., Cucinell, C., Davis, J.J., Dempsey, D.M., Dickerman, A., Dietrich, E.M., Kenyon, R.W., dan Kuscuglu, M. 2023. Introducing The Bacterial and Viral Bioinformatics Resource Center (BV-BRC): A Resource Combining PATRIC, IRD and ViPR. *Nucleic acids research*. 51(1): 678-689.
- Pancu, D.F. Scurtu, A., Macasoi, I.G., Marti, D., Mioc, M., Soica, C., Coricovac, D., Horhat, D., Poenaru, M., dan Dehelean, C. 2021. Antibiotics: Conventional Therapy and Natural Compounds with Antibacterial Activity—a Pharmaco-Toxicological Screening. *Antibiotics*. 10(401): 1-35.
- Pandey, N., dan Cascella, M. 2023. *Beta-Lactam Antibiotics*. StatPearls Publisher, New York.
- Panie, P.B., Detha, A.I., dan Wuri, D.A. 2022. Kajian Penggunaan Antibiotik pada Peternak Babi di Kabupaten Rote Ndao. *Jurnal Kajian Veteriner*. 10(1): 51-60.
- Partridge, S.R., Kwong, S.M., Firth, N., dan Jensen, S.O. 2018. Mobile Genetic Elements Associated with Antimicrobial Resistance. *Clinical Microbiology Reviews*. 31(4): 1-61.

- Pawlowski, A.C., Stogios, P.J., Koteva, K., Skarina, T., Evdokimova, E., Savchenko, A., dan Wright, G.D. 2018. The evolution of substrate discrimination in macrolide antibiotic resistance enzymes. *Nature Communications*, 9(1): 1-12.
- Pavelquesi, S.L.S., de Oliveira Ferreira, A.C.A., Rodrigues, A.R.M., de Souza Silva, C.M., Orsi, D.C. dan da Silva, I.C.R. 2021. Presence of Tetracycline and Sulfonamide Resistance Genes in *Salmonella spp.*: Literature Review. *Antibiotics*. 10(11): 1-14.
- Radford, F., Elliott, S.D., Schepartz, A. dan Isaacs, F.J. 2022. Targeted Editing and Evolution of Engineered Ribosomes *in vivo* by Filtered Editing. *Nature Communications*. 13(1): 1-13.
- Richter, L., Du Plessis, E.M., Duvenage, S., dan Korsten, L. 2019. Occurrence, Identification, and Antimicrobial Resistance Profiles of Extended-spectrum and AmpC β -lactamase-producing *Enterobacteriaceae* from Fresh Vegetables Retailed in Gauteng Province, South Africa. *Foodborne Pathogens and Disease*. 16(6): 421-427.
- Rothrock, M.J., Min, B.R., Castleberry, L., Waldrip, H., Parker, D., Brauer, D., Pitta, D., dan Indugu, N. 2021. Antibiotic Resistance, Antimicrobial Residues, and Bacterial Community Diversity in Pasture-raised Poultry, Swine, and Beef Cattle Manures. *Journal of Animal Science*. 99(8): 1-16.
- Sahputri, J. dan Khairunnisa, Z. 2020. Tingkat Pengetahuan Penggunaan Antibiotik Dikalangan Mahasiswa Program Studi Kedokteran FK Unimal Angkatan 2019. *AVERROUS: Jurnal Kedokteran dan Kesehatan Malikussaleh*. 6(2): 84-92.
- Sari, D. R. T., Soputra, D., Nurpermatasari, A., Sukmawati, I. K., Utami, A. W., Herdianty, J., Putri, L. A. M. P., dan Hainil, S. 2023. *Mikrobiologi-Virologi*. Global Eksekutif Teknologi, Jakarta.
- Sari, I. N. dan Suwarno. 2019. Pengaruh Aktivitas dan Kesadaran Masyarakat terhadap Kualitas Air Sungai Banjaran Kabupaten Banyumas. *Jurnal Pendidikan Geografi FKIP UMP*. 1(1): 1-9.
- Sergiev, P.V., Lesnyak, D.V., Burakovskiy, D.E., Svetlov, M., Kolb, V.A., Serebryakova, M.V., Demina, I.A., Govorun, V.M., Dontsova, O.A. dan Bogdanov, A.A. 2012. Non-stressful Death of 23S rRNA Mutant G2061C Defective in Puromycin Reaction. *Journal of Molecular Biology*. 416(5): 656-667.
- Setiabudy, R. 2016. *Farmakologi dan Terapi*. Badan Penerbit FKUI, Jakarta.
- Shaaly, A., Kalamorz, F., Gebhard, S., dan Cook, G.M. 2013. Undecaprenyl Pyrophosphate Phosphatase Confers Low-level Resistance to Bacitracin in *Enterococcus faecalis*. *Journal of Antimicrobial Chemotherapy*. 68(7): 1583-1593.

- Siahaan, S., Rukmini, R., Roosihermiatie, B., Andarwati, P., Handayani, R.S., Tarigan, I.U., Rosita, T., Rustika, R., Usman, Y., dan Kristiana, L. 2023. The Effort to Rationalize Antibiotic Use in Indonesian Hospitals: Practice and Its Implication. *Journal of Tropical Medicine*. 1(1): 1-12.
- Singh, H., Velamakanni, S., Deery, M.J., Howard, J., Wei, S.L., dan Van Veen, H.W. 2016. ATP-dependent Substrate Transport by the ABC Transporter MsbA is Proton-coupled. *Nature communications*. 7(1): 1-11.
- SNI. 2008. Pengambilan Muatan Sedimen. BSN, Jakarta.
- Srinivasan, V.B., Vaidyanathan, V., Mondal, A., dan Rajamohan, G. 2012. Role of The Two Component Signal Transduction System CpxAR in Conferring Cefepime and Chloramphenicol Resistance in *Klebsiella pneumoniae* NTUH-K2044. *PLoS One*. 7(4): 1-15.
- Takahata, S., Ida, T., Hiraishi, T., Sakakibara, S., Maebashi, K., Terada, S., Muratani, T., Matsumoto, T., Nakahama, C., dan Tomono, K. 2010. Molecular Mechanisms of Fosfomycin Resistance in Clinical Isolates of *Escherichia coli*. *International Journal of Antimicrobial Agents*. 35(4): 333-337.
- Tchesnokova, V., Larson, L., Basova, I., Sledneva, Y., Choudhury, D., Solyanik, T., Heng, J., Bonilla, T.C., Pham, S., Schatz, E.M. dan Madziwa, L.T. 2023. Increase in The Community Circulation of Ciprofloxacin-resistant *Escherichia coli* Despite Reduction in Antibiotic Prescriptions. *Communications Medicine*. 3(1): 1-10.
- Wang, N., Luo, J., Deng, F., Huang, Y., dan Zhou, H. 2022. Antibiotic Combination Therapy: A Strategy to Overcome Bacterial Resistance to Aminoglycoside Antibiotics. *Frontiers in Pharmacology*. 13(1): 1-15.
- Widhi, A.P.K.N. dan Saputra, I.N.Y. 2021. Residu antibiotik serta keberadaan *Escherichia Coli* penghasil ESBL pada daging ayam broiler di Pasar Kota Purwokerto. *Jurnal Kesehatan Lingkungan Indonesia*. 20(2): 137-142.
- World Health Organization. 2019. Ten Threats to Global Health in 2019. <https://www.who.int/emergencies/ten-threats-to-global-health-in-2019>. Diakses 3 Maret 2023.
- World Health Organization. 2015. Antibiotic Resistance. <https://www.who.int/news-room/fact-sheets/detail/antibiotic-resistance> Diakses 8 Juli 2023
- Xu, H., Miao, V., Kwong, W., Xia, R., dan Davies, J. 2011. Identification of A Novel Fosfomycin Resistance Gene (fosA2) in *Enterobacter cloacae* from the Salmon River, Canada. *Microbiology*. 52(4): 427-429.

- Yang, Y., Xing, S., Chen, Y., Wu, R., Wu, Y., Wang, Y., Mi, J., dan Liao, X. 2021. Profiles of Bacteria/phage-comediated ARGs in Pig Farm Wastewater Treatment Plants in China: Association with Mobile Genetic Elements, Bacterial Communities and Environmental Factors. *Journal of Hazardous Materials*. 16(4): 1-27.
- Zahra, Z., Indrawaty, L., dan Arfines, P.P. 2021. Manajemen Pengelolaan Sampah Rumah Tangga dan Limbah Ternak di Kawasan Peternakan Daerah Aliran Sungai Citarum Kabupaten Bandung. *Jurnal Ekologi Kesehatan*. 20(3): 165-175.
- Zhang, Z., Zhang, Q., Wang, T., Xu, N., Lu, T., Hong, W., Penuelas, J., Gillings, M., Wang, M., Gao, W., dan Qian, H. 2022. Assessment of global health risk of antibiotic resistance genes. *Nature communications*, 13(1):1-11.
- Zango, U.U., Ibrahim, M., Shawai, S.A.A., dan Shamsuddin, I.M. 2019. A Review on β -lactam Antibiotic Drug Resistance. *MOJ Drug Des Develop Ther*. 3(2): 52-58.
- Zhong, Z., Kwok, L.Y., Hou, Q., Sun, Y., Li, W., Zhang, H., dan Sun, Z. 2019. Comparative Genomic Analysis Revealed Great Plasticity and Environmental Adaptation of The Genomes of *Enterococcus faecium*. *BMC genomics*. 20(1): 1-13.
- Zubaidah, T., Karnaningoem, N., dan Slamet, A. 2019. The Self-purification Ability in The Rivers of Banjarmasin, Indonesia. *Journal of Ecological Engineering*. 20(2): 177-182.