UNIVERSITAS
GADJAH MADA
Isolasi dan Karakterisasi Bakteriofaga Terhadap Salmonella enterica Sebagai Kandidat Biokontrol Potensial Terhadap Pangan Terkontaminasi
Endah Rahmawati, Dr.rer.nat. Abdul Rahman Siregar, S.Si. M.Biotech.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Abedon, ST. 2008. Bacteriophage Ecology: Population Growth, Evolution and Impact of Bacterial Viruses. *Cambridge (GB): Cambridge University Press*.

ABM Inc., n.d. *Multiplicity of Infection (MOI)*. Applied Biological Materials Inc. Available at: https://info.abmgood.com/multiplicity-of-infection-moi [Accessed 25 June 2026].

Acharya, K.P., Subramanya, S.H. and Lopes, B.S., 2019. Combatting antimicrobial resistance in Nepal: The need for precision surveillance programmes and multi-sectoral partnership. *JAC-Antimicrobial Resistance*, 1(3), pp.2–3. https://doi.org/10.1093/jacamr/dlz066.

Andari, S. and Yudhayanti, D., 2022. Isolasi dan Identifikasi Salmonella Sp pada Daging Ayam Segar yang Dijual di Pasar Legi Ponorogo. *Jurnal Delima Harapan*, 9(2), pp.101-108. https://doi.org/10.31935/delima.v9i2.165.

Apriani, L., 2019. Deteksi Bakteri Salmonella Dan Shigella Pada Makanan Burger Di Sungai Raya Dalam Pontianak. *Jurnal Protobiont*. 8 (3) : 53 – 57

Azkiyah, S.Z., 2020. Pengaruh uji antibakteri ekstrak rimpang jahe terhadap pertumbuhan *Staphylococcus aureus* dan *Escherichia coli* secara *in vitro*. *Jurnal Farmasi Tinctura*, *1*(2), pp.71–80. doi:10.35316/tinctura.v1i2.1003.

Badan POM., 2023. Kajian Analisis Data Kasus Keracunan Obat dan Makanan Tahun 2023. https://pusakom.pom.go.id/risetkajian/detail/analisis-data-kasus-keracunanobat-dan-makanan-tahun-2023

Bartell, P.F. and Orr, T.E., 1969. Origin of polysaccharide depolymerase associated with bacteriophage infection. *Journal of Virology*, *3*(3), pp.290–296.

Budiarti, S., Rus, I., & Sunarti, R. N. (2011). Efektivitas Fage Litik Dari Lcrt Pada Pemecahan Sel Patogen Enterik Salmonella Sp . Resisten Antibiotik (Efectivity Of Lytic Phage to Salmonella sp . Resistant Antibiotic as Enteric Pathogen) Bakteri Salmonella merupakan anggota famili Enterobacteriac. 2011.

Ahn, J., Kim, S., Jung, L.-S. and Biswas, D., 2013. In vitro assessment of the susceptibility of planktonic and attached cells of foodborne pathogens to bacteriophage P22-mediated salmonella lysates. *Journal of Food Protection*, *76*(12), pp.2057–2062.

Bao, D., Chen, L., Shen, W., Xu, X., Zhu, L., Wang, Y., Wu, Y., He, X., Zhu, F. and Li, H., 2024. Genomic epidemiology of ceftriaxone-resistant non-typhoidal Salmonella enterica strain in China. BMC genomics, 25(1), p.974.

Brown, T.A., 2002. Genomes. 2nd ed. *New York: BIOS Scientific Publishers Ltd.*

Cross, T., Schoff, C., Chudoff, D., Graves, L., Broomell, H., Terry, K., Farina, J., Correa, A., Shade, D. and Dunbar, D., 2015. An optimized enrichment

UNIVERSITAS
GADJAH MADA
Isolasi dan Karakterisasi Bakteriofaga Terhadap Salmonella enterica Sebagai Kandidat Biokontrol Potensial Terhadap Pangan Terkontaminasi
Endah Rahmawati, Dr.rer.nat. Abdul Rahman Siregar, S.Si. M.Biotech.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

technique for the isolation of *Arthrobacter* bacteriophage species from soil sample isolates. *Journal of Visualized Experiments*, (98), p.52781. doi:10.3791/52781.

Dewantoro, B.S.D. and Ningrum, S.G., 2024. Host range bakteriofag yang diisolasi dari limbah di lingkungan rumah burung walet. In: *Prosiding Seminar Nasional Kusuma*, 2, pp.493–503.

Dewi, S.S., Rahmawati, F. and Pratiwi, S.U.U.T., 2018. Kontaminasi bakteri pada sediaan campuran intravena di bangsal perawatan rumah sakit. *Jurnal Sains Farmasi & Klinis*, *5*(1), pp.7–11.

Dwiyanti, R.D., Nurlailah, N. and Widiningsih, I.K., 2015. Efektivitas air rebusan daun binahong (*Anredera cordifolia*) terhadap pertumbuhan *Salmonella typhi*. *Medical Laboratory Technology Journal*, *1*(1), pp.1–6. https://doi.org/10.31964/mltj.v1i1.7.

Fàbrega, A. and Vila, J., 2013. *Salmonella enterica* serovar *Typhimurium* skills to succeed in the host: virulence and regulation. *Clinical microbiology reviews*, *26*(2), pp.308-341.

Fadlilah, D.M.A., Setiawan, A.W. and Handoko, Y.A., 2022. Isolasi, karakterisasi dan uji stabilitas pH bakteriofag Xanthomonas oryzae dari area persawahan. *Jurnal Ilmiah Pertanian*, *19*(2), pp.118-125.

Fathrizky, F.S., 2022. Tinjauan Kualitas Air Sungai Code Provinsi Daerah Istimewa Yogyakarta pada Penggal Jembatan Wreksodiningrat hingga Jembatan Sayyidan. Jurnal Teknik Sipil dan Lingkungan, 1(01), pp.1-23.

Fung, F., Wang, HS., and Menon, S. 2018. Food safety in the 21st century. Biomedical Journal. vol 41(2): 88–95. doi: https://doi.org/10.1016/j.bj.2018.03.003.

Gaffar, A., 2025. Kisarang inang bakteriofag sebagai agen pengendali bakteri multidrug-resistant (MDR): Host range bacteriophages as control agents for multidrug-resistant (MDR) bacteria. *Jurnal SainHealth*, *9*(1), pp.1–12.

Grabow, W.O.K., 2001. Bacteriophages: Update on application as models for viruses in water. *Water SA*, *27*(2), pp.251–268.

Gudlavalleti, B.S., Trong, P., Charles, L.B., Allysson, B., Brittany, L.G., Jarod, T.G., Connor, J.H., Bailey, H., David, R.L., Lauren, M.R., Alexandria, M.S., Bobby, L.G., Rodney, A.K., Claire, A.R., Amanda, K.S., Alexander, A.S., Marie, L.N. and Kelly, E.O., 2020. Whole genome sequencing identifies an allele responsible for clear vs. turbid plaque morphology in a mycobacteriophage. *BMC Microbiology*, *20*, p.148.

Hardanti, S., Wardani, A.K. and Rukmi, W.D., 2018. Isolasi dan karakterisasi bakteriofaga spesifik *Salmonella typhi* dari kulit ayam. *Jurnal Teknologi Pertanian*, *19*(2), pp.107–116. doi:10.21776/ub.jtp.2018.019.02.5.

Haq, U.I., Waqas, N.C., Maha, N.A., Saadia, A. and Istiaq, Q., 2012. Bacteriophages and their implications on future biotechnology: A review. *Virology Journal*, *9*(9).

UNIVERSITAS
GADJAH MADA
Isolasi dan Karakterisasi Bakteriofaga Terhadap Salmonella enterica Sebagai Kandidat Biokontrol Potensial Terhadap Pangan Terkontaminasi
Endah Rahmawati, Dr.rer.nat. Abdul Rahman Siregar, S.Si. M.Biotech.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Hyman, P. (2019). Phages for phage therapy: Isolation, characterization, and host range breadth. Pharmaceuticals, 12(1). https://doi.org/10.3390/ph12010035.

Imroatushshoolikhah, S.P. and Slamet, S., 2014. Kajian kualitas air Sungai Code Provinsi Daerah Istimewa Yogyakarta. *Majalah Geografi Indonesia*, *28*(1), pp.23–32.

Inayah, M.N., Budiarti, S.I. and Wulan, R., 2025. Isolasi dan Identifikasi Molekuler Bakteri Salmonella Asal Tempe Dage Berdasarkan Gen 16S rRNA. *Bioscientist: Jurnal Ilmiah Biologi*, *13*(4), pp.2635-2647.

Isenberg, HD, 1992, Interpretation of Aerobic Bacterial Growth on Primary Culture Media, Clinical Microbiology Procedures Handbook, Vol. 1, hal. No. 1, hal. 61-67

Jatmiko, Y.D., Purwanto, A.P. and Ardyati, T., 2018. Uji aktivitas bakteriofage litik dari limbah rumah tangga terhadap *Salmonella typhi*. *Jurnal Biodjati*, *3*(2), pp.134–147.

Jawetz, E., Melnick, J.L. and Adelberg, E.A., 2008. Mikrobiologi Kedokteran. Edisi ke-23. *Jakarta: Salemba Medika*.

Julaini, N. and Wahjuningrum, D., 2026. Isolation, Characterization, and In Vitro Evaluation of Bacteriophages for Controlling the Fish Pathogen Aeromonas hydrophila. *Jurnal Ilmiah Perikanan dan Kelautan*, *18*(1), p.128.

Kaur, J. and Jain, S.K., 2012. Role of antigens and virulence factors of *Salmonella enterica* serovar Typhi in its pathogenesis. *Microbiological Research*, *167*(4), pp.199–210.

Khoiriyah, H. and Ardiningsih, P., 2014. Penentuan waktu inkubasi optimum terhadap aktivitas bakteriosin *Lactobacillus* sp. Red. *JKK*, *3*(4), pp.52–56.

Kim, S.H., Adeyemi, D.E. and Park, M.K., 2021. Characterization of a new and efficient polyvalent phage infecting *E. coli* O157:H7, *Salmonella* spp. and *Shigella sonnei*. *Microorganisms*, *9*(10), p.2105.

Kim, S.H., Sung, G.H., Park, E.H., Hwang, S.N., Kim, E.Y., You, E., Lee, J.Y., Kim, G.R., Jeong, J., Kim, S. and Shin, J.H., 2025. Evaluating the aquatic environment as a reservoir for *Salmonella*: A comparative analysis with clinical strains. *Microorganisms*, *13*(9), p.2072.

Koskella, B., & Meaden, S., 2013.Understanding Bacteriophage Specificity in Natural Microbial Communities. *Viruses*, 5(3), 806–823. https://doi.org/10.3390/v5030806

Laila, O.N., Khambali, K. and Sulistio, I., 2022. Perilaku, sanitasi lingkungan rumah dan kejadian demam tifoid. *Jurnal Penelitian Kesehatan "SUARA FORIKES" (Journal of Health Research "Forikes Voice")*, *13*(2), pp.525–529.

Lamichhane, B., Mawad, A.M., Saleh, M., Kelley, W.G., Harrington, P.J., Lovestad, C.W., Amezcua, J., Sarhan, M.M., El Zowalaty, M.E., Ramadan, H. and Morgan, M., 2024. Salmonellosis: an overview of epidemiology, pathogenesis, and innovative approaches to mitigate the antimicrobial resistant infections. *Antibiotics*, 13(1), p.76.

UNIVERSITAS
GADJAH MADA
Isolasi dan Karakterisasi Bakteriofaga Terhadap Salmonella enterica Sebagai Kandidat Biokontrol Potensial Terhadap Pangan Terkontaminasi
Endah Rahmawati, Dr.rer.nat. Abdul Rahman Siregar, S.Si. M.Biotech.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Lesmana, M., Salim, O.C., Herwana, E., Bukitwetan, P. and Surjawidjaja, J.E., 2008. Comparative analysis of transport media for isolating *Shigella*. *Universa Medicina*, *27*(2), pp.51–56.

Liu, H., Whitehouse, C.A., & Li, B. 2018. Presence and Persistence of Salmonella in Water: The Impact on Microbial Quality of Water and Food Safety. Frontiers in Public Health, 6:159. doi:10.3389/fpubh.2018.00159.

Loc-Carrillo, C. and Abedon, S.T., 2011. Pros and cons of phage therapy. *Bacteriophage*, *1*(2), pp.111–114. doi:10.4161/bact.1.2.14590.

Łoś, J.M., Łoś, M., Węgrzyn, A. and Węgrzyn, G., 2008. Role of the bacteriophage λ exo-xis region in the virus development. Folia microbiologica, 53(5), pp.443-450.

Madigan, M., Martinko, J., Dunlap, P. and Clark, D., 2012. *Brock Biology of Microorganisms*. 13th ed. United States of America: Pearson Benjamin Cummings.

Manalu, R.T., Napoleon, A. and Hermawan, A., 2016. Eksplorasi bakteri pendegradasi hidrokarbon pada tanah terkontaminasi minyak bumi. *Sainstech Farma: Jurnal Ilmu Kefarmasian*, *9*(2).

Mardanela, 2016. Fase pertumbuhan isolat bakteri asam laktat (BAL) tempoyak asal Jambi yang disimpan pada suhu kamar. *Jurnal Sain Peternakan Indonesia (JSPI)*, *11*(1), pp.58–66.

Masuet-Aumatell, C. and Atouguia, J., 2021. Typhoid fever infection–antibiotic resistance and vaccination strategies: A narrative review. *Travel Medicine and Infectious Disease*, *40*, p.101946.

Monteiro, R., Pires, D.P., Costa, A.R. and Azeredo, J., 2019. Phage therapy: Going temperate? *Trends in Microbiology*, *27*(4), pp.368–378. doi:10.1016/j.tim.2018.10.008.

Murtiyaningsih, H., 2017. Isolasi DNA genom dan identifikasi kekerabatan genetik nanas menggunakan RAPD (Random Amplified Polymorphic DNA). *Agritrop*, *15*(1), p.273771.

Nannini, F., Senicar, L., Parekh, F., Kong, K.J., Kinna, A., Bughda, R., Sillibourne, J., Hu, X., Ma, B., Bai, Y., Ferrari, M., Pule, M.A. and Onuoha, S.C., 2021. Combining phage display with SMRTbell next-generation sequencing for the rapid discovery of functional scFv fragments. *mAbs*, *13*(1), p.1864084. doi:10.1080/19420862.2020.1864084.

Natsir, R.M., 2023. Identifikasi bakteri *Salmonella* sp. pada feses anak di Puskesmas Rijali Ambon. *Media Kesehatan Politeknik Kesehatan Makassar*, *18*(1), pp.130–135.

Nelson, E.B.B.D., Cantey, J.B., Kimberlin, D.W., Palumbo, P.E., Sauberan, J., Howard Smart, P.J., Steinbach, W.J. and Nelson, J.D., 2019. *Nelson Pediatric Antimicrobial Therapy*. 25th ed. Itasca, IL: American Academy of Pediatrics.

UNIVERSITAS
GADJAH MADA
Isolasi dan Karakterisasi Bakteriofaga Terhadap Salmonella enterica Sebagai Kandidat Biokontrol Potensial Terhadap Pangan Terkontaminasi
Endah Rahmawati, Dr.rer.nat. Abdul Rahman Siregar, S.Si. M.Biotech.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Nindita, L.O. and Wardani, A.K., 2013. Purification of Phage Cocktail and its Inhibition Spectrum to Foodborne Disease Bacteria. *Jurnal Teknologi Pertanian*, *14*(1).

Nora, A., 2017. Identifikasi dan isolasi haloalkana dehalogenase dari *Pseudomonas aeruginosa* strain lokal. *Indonesian Journal of Biotechnology and Biodiversity*, *1*(1).

Nurjanah, S., Agesti, P., Rahayu, W.P. and Hasanah, U., 2024. Homogenitas, stabilitas, dan konfirmasi molekuler biakan kering beku campuran *Escherichia coli* dan *Salmonella Typhimurium*. *Journal of Food Technology & Industry/Jurnal Teknologi & Industri Pangan*, *35*(2), p.211.

Nurmawati, S., Prodjosoewojo, S., Chairunnisa, N.H., Djauhari, H. and Alisjahbana, B., 2019. Faktor risiko penyebab foodborne disease pada siswa SD. *Jurnal Sains dan Kesehatan*, *4*(4), pp.180–184.

Pardosi, L., Tode, S.Y. and Fallo, G., 2025. Ekstraksi dan karakterisasi enzim endonuklease restriksi kasar dari bakteri *Escherichia coli*. *Berita Biologi*, *24*(2), pp.309–316.

Prananda, A.R., Warganegara, E., Soleha, T.M. and Apriliana, E., 2019. Identifikasi bakteri pada bakso bakar, saos, dan sambalnya di Kelurahan Perwata Kecamatan Teluk Betung Timur. *Jurnal Agromedicine*, *6*(2), pp.245–252.

Quinto, E.J., Caro, I., Villalobos-Delgado, L.H., Mateo, J., De-Mateo-Silleras, B. and Redondo-Del-Río, M.P., 2019. Food safety through natural antimicrobials. *Antibiotics*, *8*(4), pp.1–30. doi:10.3390/antibiotics8040208.

Rahaman, M.T., Rahman, M., Rahman, M.B., Khan, M.F.R., Hossen, M.L., Parvej, M.S. and Ahmed, S., 2014. Poultry *Salmonella*-specific bacteriophage isolation and characterization. *Bangladesh Journal of Veterinary Medicine*, *12*(2), pp.107–114.

Rahmat, W., Akune, K. and Sabir, M., 2019. Demam Tifoid dengan Komplikasi Sepsis: Pengertian, Epidemiologi, Patogenesis, dan Sebuah Laporan Kasus. *Jurnal Medical Profession (MedPro)*, *1*(3), pp.220-225.

Ranjani, P.K., Gowthami, Y., Samuel, G., Gnanamanickam, S. and Palani, P., 2018. Bacteriophage: A new weapon for the control of bacterial blight disease in rice caused by *Xanthomonas oryzae*. *Journal of Microbiology and Biotechnology*, *46*(4), pp.346–359. doi:10.4014/mbl.1807.07009.

Rimporok, S., 2015. Uji efektivitas ekstrak daun binahong (*Anredera cordifolia* Steenis) terhadap pertumbuhan *Streptococcus mutans* secara *in vitro*. *Pharmacon*, *4*(4).

Rijal, K.R., Banjara, M.R., Dhungel, B., Kafle, S., Gautam, K., Ghimire, B., Ghimire, P., Dhungel, S., Adhikari, N., Shrestha, U.T., Sunuwar, D.R., Adhikari, B. and Ghimire, P., 2021. Use of antimicrobials and antimicrobial resistance in Nepal: A nationwide survey. *Scientific Reports*, *11*(1), pp.1–14. doi:10.1038/s41598-021-90812-4.

UNIVERSITAS
GADJAH MADA
Isolasi dan Karakterisasi Bakteriofaga Terhadap Salmonella enterica Sebagai Kandidat Biokontrol Potensial Terhadap Pangan Terkontaminasi
Endah Rahmawati, Dr.rer.nat. Abdul Rahman Siregar, S.Si. M.Biotech.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Rolfe, M.D., Rice, C.J., Lucchini, S., Pin, C., Thompson, A., Cameron, A.D.S., Alston, M., Stringer, M.F., Betts, R.P., Baranyi, J., Peck, M.W. and Hinton, J.C.D., 2012. Lag phase is a distinct growth phase that prepares bacteria for exponential growth and involves transient metal accumulation. *Journal of Bacteriology*, *194*(3), pp.686–701.

Rosmania, R. and Yanti, F., 2020. Perhitungan jumlah bakteri di Laboratorium Mikrobiologi menggunakan pengembangan metode spektrofotometri. *Jurnal Penelitian Sains*, *22*(2), pp.76–86.

Sabino, J., Hirten, R.P. and Colombel, J.F., 2020. Review article: Bacteriophages in gastroenterology—from biology to clinical applications. *Alimentary Pharmacology and Therapeutics*, *51*(1), pp.53–63. doi:10.1111/apt.15557.

Sabir, M., Dwiyanti, R. and Asrinawaty, A.N., 2023. Resistensi antibiotik terhadap bakteri *Salmonella typhi*: Literature review. *Promotif: Jurnal Kesehatan Masyarakat*, *13*(1), pp.1–6.

Sakano, C., Kuroda, M., Sekizuka, T., Ishioka, T., Morita, Y., Ryo, A., Tsukagoshi, H., Kawai, Y., Inoue, N., Takada, H. and Ogaswara, Y., 2013. Genetic analysis of non-hydrogen sulfide-producing Salmonella enterica serovar Typhimurium and S. enterica serovar Infantis isolates in Japan. *Journal of Clinical Microbiology*, *51*(1), pp.328-330.Setiara, A., Tarigan, J.M.A.B., Anandari, M., Husna, N., Hulzana, N., Pangaribuan, S.H. and Sibarani, S.A.B., 2024. Identifikasi bakteri *Escherichia coli* pada sampel daging bakso sebagai pangan jajanan anak sekolah (PJAS). *Algoritma: Jurnal Matematika, Ilmu Pengetahuan Alam, Kebumian dan Angkasa*, *2*(5), pp.50–58.

Setyati, W.A., Martani, E. and Zainuddin, M., 2015. Kinetika pertumbuhan dan aktivitas protease isolat 36K dari sedimen ekosistem mangrove, Karimunjawa, Jepara. *Ilmu Kelautan: Indonesian Journal of Marine Sciences*, *20*(3).

Simatupang, E.G.H., Wardana, K.D.P.K. and Ivanka, D., 2023. Epidemiologi dan resistensi antibiotik *Salmonella Typhi* dan *Paratyphi A* pada kasus demam tifoid di Jakarta: A systematic literature review. *Jurnal Ilmu Psikologi dan Kesehatan (SIKONTAN)*, *2*(2), pp.173–184.

Spricigo, D.A., Bardina, C., Cortés, P. and Llagostera, M., 2013. Use of a bacteriophage cocktail to control *Salmonella* in food and the food industry. *International Journal of Food Microbiology*, *165*(2), pp.169–174. doi:10.1016/j.ijfoodmicro.2013.05.009.

Sufa, H. I., Budiarti, S. R. I., & Rusmana, I. (2018). Diversity of uropathogenic *Escherichia coli* lytic phage from Cisadane River , West Java , Indonesia based on morphology and protein molecular weight characteristics. 19(6), 2359–2364. https://doi.org/10.13057/biodiv/d190646.

Sulakvelidze, A., Alavidze, Z., dan Morris, J.G. Jr. 2001. Bacteriophage Therapy. Antimicrobial Agents and Chemotherapy. 45(3): 649–659.

UNIVERSITAS
GADJAH MADA
Isolasi dan Karakterisasi Bakteriofaga Terhadap Salmonella enterica Sebagai Kandidat Biokontrol Potensial Terhadap Pangan Terkontaminasi
Endah Rahmawati, Dr.rer.nat. Abdul Rahman Siregar, S.Si. M.Biotech.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Sulistyaningtyas, A.S., Prasetywan, S. and Sutrisno, 2013. Pengaruh penambahan ion Fe^{3+} terhadap aktivitas xilanase dari *Trichoderma viride*. *Kimia Student Journal*, *2*(2), pp.470–476.

Susilowati, E., 2018. Pengaturan terhadap pembangunan gedung sarang burung walet di Kota Palangka Raya Provinsi Kalimantan Tengah. *Jurnal Morality*, *4*(1).

Tjampakasari, C.R., 2021. Bakteri Gram positif *Listeria monocytogenes* sebagai penyebab food-borne disease. *Cermin Dunia Kedokteran*, *48*(1), pp.20–24.

Utami, N.D., Ramadhan, M.R.G. and Listiasari, F.R., 2026. Analisis implementasi good manufacturing practices pada pengendalian pasca panen telur untuk reduksi kontaminasi *Salmonella* sp.: Kajian literatur. *Jejak Digital: Jurnal Ilmiah Multidisiplin*, *2*(3), pp.3932–3940.

Wahyuningsih, N. and Zulaika, E., 2018. Perbandingan pertumbuhan bakteri selulolitik pada media nutrient broth dan carboxy methyl cellulose. *Jurnal Sains dan Seni ITS*, *7*(2), pp.36–38.

Wally, A., Darmawan, E.S. and Setyaningsih, S., 2021. Bakteriofag spesifik *Escherichia coli* yang diisolasi dari berbagai sumber air di Bogor Tengah, Kota Bogor sebagai antibiotika alternatif. *Jurnal Biologi Udayana*, *25*(2), pp.183–188.

Wandayani, S. and Ningrum, S.G., 2024. Host range bakteriofag yang diisolasi dari tanah di lingkungan rumah burung walet. In: *Prosiding Seminar Nasional Kusuma*, *2*, pp.250–256.

WHO, 2015. *Global Action Plan on Antimicrobial Resistance*. Geneva: World Health Organization. Available at: http://www.who.int/drugresistance/documents/surveillancereport/en/ [Accessed 15 March 2026].

World Health Organization (WHO). 2021. *Antimicrobial Resistance*. Fact Sheet. Geneva: World Health Organization. Available at: WHO Fact Sheet: Antimicrobial Resistance [Accessed 15 March 2026].

Widyanti, T. and Fatmawati, A., 2022. Deteksi kelompok Enterobacteriaceae pada tanah di lingkungan tempat pembuangan akhir sampah Tamangapa Kecamatan Manggala Makassar. *Jurnal Ilmu Alam dan Lingkungan*, *13*(1).

Widyastuti, D.A., 2017, May. Isolasi DNA Kromosom Salmonellasp. dan Visualisasinya pada Elektroforesis Gel Agarosa. In *Prosiding SNPBS (Seminar Nasional Pendidikan Biologi dan Saintek)* (pp. 311-317).

Wistrand-Yuen, E., Knopp, M., Hjort, K., Koskiniemi, S., Berg, O.G. and Andersson, D.I., 2018. Evolution of high-level resistance during low-level antibiotic exposure. *Nature Communications*, *9*(1), p.1599.

Woolston, J., Parks, A.R., Abuladze, T., Anderson, B., Li, M., Carter, C., Hanna, L.F., Heyse, S., Charbonneau, D. and Sulakvelidze, A., 2013. Bacteriophages lytic for *Salmonella* rapidly reduce *Salmonella* contamination on glass and stainless steel surfaces. *Bacteriophage*, *3*(3), p.e25697.

UNIVERSITAS
GADJAH MADA
Isolasi dan Karakterisasi Bakteriofaga Terhadap Salmonella enterica Sebagai Kandidat Biokontrol Potensial Terhadap Pangan Terkontaminasi
Endah Rahmawati, Dr.rer.nat. Abdul Rahman Siregar, S.Si. M.Biotech.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Woźnica, W.M., Bigos, J. and Łobocka, M.B., 2015. Lysis of bacterial cells in the process of bacteriophage release--canonical and newly discovered mechanisms. *Postepy Higieny i Medycyny Doswiadczalnej (Online)*, *69*, pp.114-126.

Yulianto, D., Sukrama, I.D.M. and Hendrayana, M.A., 2019. Isolasi bakteri *Escherichia coli* pada lawar merah babi di Kota Denpasar. *Intisari Sains Medis*, *10*(1), pp.53–56. doi:10.15562/ism.v10i1.238.

Yulinery, T. and Triana, E., 2016. Teknik pengkayaan isolasi bakteriofag *Salmonella* sp. sebagai agen kontrol terapi infeksi bakteri. In: *Prosiding Seminar Nasional*, *2*(26), pp.1265–1273.

Yuningsih, R., 2015. Penanggulangan wabah penyakit menular di Kabupaten Bantul tahun 2014. *Jurnal DPR RI*, *20*(1), pp.17–30.

Zhang, Y., Tan, P., Zhao, Y. and Ma, X., 2022. Enterotoxigenic *Escherichia coli*: Intestinal pathogenesis mechanisms and colonization resistance by gut microbiota. *Gut Microbes*, *14*(1), p.2055943.

Zhao, L., Li, X., Cong, H. and Yu, B., 2025. Bacteriophage antimicrobial therapy: From mechanism exploration to biomedical applications. *Biomedicine & Pharmacotherapy*, *193*, p.118502. doi:10.1016/j.biopha.2025.118502.