



DAFTAR PUSTAKA

- Abdalhamid, B., Albunayan, S., Shaikh, A., Elhadi, N., Aljindan, R. 2017. Prevalence study of plasmid-mediated AmpC β -lactamases in *Enterobacteriaceae* lacking inducible AmpC from Saudi hospitals. *J. Med. Microbiol.*, 66(9):1286–1290.
- Ataee, R.A., Mehrabi, A., Hosseini, S., Moridi, K., Ghorbanalizadgan, M. 2012. A method for antibiotic susceptibility testing: applicable and accurate. *Jundishapur J. Microbiol.*, 5:341–345.
- Bala, R., Singh, V.A., Gupta, N., Rakshit, P. 2020. Prevalence, multidrug-resistance and risk factors for AmpC β -lactamases producing *Escherichia coli* from hospitalized patients. *J. Infect. Dev. Ctries.*, 14(12):1466–1469.
- Bauer, A.W., Kirby, W.M., Sherris, J.C., Turck, M. 1966. Antibiotic susceptibility testing by a standardized single disk method. *Am. J. Clin. Pathol.*, 45(4):493–496.
- Belkum, A. van, Burnham, C.A.D., Rossen, J.W.A., Mallard, F., Rochas, O., Dunne, W.M. 2020. Innovative and rapid antimicrobial susceptibility testing systems. *Nat. Rev. Microbiol.* 2020 185, 18(5):299–311.
- Black, J.A., Moland, E.S., Thomson, K.S. 2005. AmpC disk test for detection of plasmid-mediated AmpC β -lactamases in *Enterobacteriaceae* lacking chromosomal AmpC β -lactamases. *J. Clin. Microbiol.*, 43(7):3110–3113.
- Bobenchik, A.M., Deak, E., Hindler, J.A., Charlton, C.L., Humphries, R.M. 2017. Performance of Vitek 2 for antimicrobial susceptibility testing of *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, and *Stenotrophomonas maltophilia* with Vitek 2 (2009 FDA) and CLSI M100S 26th edition breakpoints. *J. Clin. Microbiol.*, 55(2):450–456.
- Chart, H. 2012. *Klebsiella, Enterobacter, Proteus* and other *Enterobacteria*: Pneumonia; urinary tract infection; opportunist infection. In: Greenwood, D. et al., editors, *Med. Microbiol.* 18th ed. Edinburgh: Churchill Livingstone, 290–297.
- Chavada, R., Tong, D., Maley, M. 2018. In-Hospital Surgery as a Risk Factor for Onset of AmpC-Producing *Escherichia coli* Blood Stream Infections. *Diseases*, 6(3):71.
- Cižman, M., Srovin, T.P. 2018. Antibiotic consumption and resistance of gram-negative pathogens (collateral damage). *GMS Infect. Dis.*, 6:Doc05.
- CLSI. 2021. *Performance standards for antimicrobial susceptibility testing, CLSI supplement M100*. 31st ed. Wayne, PA: Clinical and Laboratory Standards Institute.
- Delgado-Valverde, M., Sojo-Dorado, J., Pascual, A., Rodríguez-Baño, J. 2013.



Clinical management of infections caused by multidrug-resistant *Enterobacteriaceae*. *Ther. Adv. Infect. Dis.*, 1(2):49–69.

Ding, H., Yang, Y., Lu, Q., Wang, Y., Chen, Y., Deng, L., Wang, A., Deng, Q., Zhang, H., Wang, C., Liu, L., Xu, X., Wang, L., Shen, X. 2008. The prevalence of plasmid-mediated AmpC β -lactamases among clinical isolates of *Escherichia coli* and *Klebsiella pneumoniae* from five children's hospitals in China. *Eur. J. Clin. Microbiol. Infect. Dis.*, 27(10):915–921.

Etemadi, S., Ebrahimzadeh Leylabadlo, H., Ghotoslou, R. 2020. AmpC β -lactamase among *Enterobacteriaceae*: a new insight. *Gene Reports*, 19(01):100673.

Gupta, G., Tak, V., Mathur, P. 2014. Detection of AmpC β Lactamases in Gram-negative Bacteria. *J. Lab. Physicians*, 6(01):001–006.

Hassan, A., Usman, J., Kaleem, F., Gill, M.M., Khalid, A., Iqbal, M., Ingram, P. 2013. Evaluation of different phenotypic methods for detection of AmpC beta-lactamase producing bacteria in clinical isolates. *J. Coll. Physicians Surg. Pak.*, 23(9):629–32.

Ibrahim, M.E., Abbas, M., Al-Shahrai, A.M., Elamin, B.K. 2019. Phenotypic characterization and antibiotic resistance patterns of extended-spectrum β -lactamase- and AmpC β -lactamase-producing Gram-negative bacteria in a referral hospital, Saudi Arabia. *Can. J. Infect. Dis. Med. Microbiol.*, 2019.

Ingram, P.R., Inglis, T.J.J., Vanzetti, T.R., Henderson, B.A., Harnett, G.B., Murray, R.J. 2011. Comparison of methods for AmpC β -lactamase detection in *Enterobacteriaceae*. *J. Med. Microbiol.*, 715–721.

Kementerian Kesehatan RI. 2015. Permenkes RI No. 8 Tahun 2015 tentang program pengendalian resistensi antimikroba di rumah sakit. *Hukum Depkes RI* [Preprint]. Jakarta: Kementerian Kesehatan Republik Indonesia.

Lee, C.H., Lee, Y.T., Kung, C.H., Ku, W.W., Kuo, S.C., Chen, T.L., Fung, C.P. 2015. Risk factors of community-onset urinary tract infections caused by plasmid-mediated AmpC β -lactamase-producing *Enterobacteriaceae*. *J. Microbiol. Immunol. Infect.*, 48(3):269–275.

Li, Y.Y., Cassidy, F., Salmon, A., Keating, D., Herra, C.M., Schaffer, K. 2015. Detection and epidemiology of plasmid-mediated AmpC β -lactamase producing *Escherichia coli* in two Irish tertiary care hospitals. *J. Glob. Antimicrob. Resist.*, 3(4):242–246.

Lin, X., Kück, U. 2022. Cephalosporins as key lead generation beta-lactam antibiotics. *Appl. Microbiol. Biotechnol.*, 106(24):8007–8020.

Manchanda, V., Singh, N.P. 2003. Occurrence and detection of AmpC beta-lactamases among Gram-negative clinical isolates using a modified three-dimensional test at Guru Tegh Bahadur Hospital, Delhi, India. *J. Antimicrob. Chemother.*, 51(2):415–418.



- Martin, R.M., Bachman, M.A. 2018. Colonization, infection, and the accessory genome of *Klebsiella pneumoniae*. *Front. Cell. Infect. Microbiol.*, 8(JAN):1–15.
- Meini, S., Tascini, C., Cei, M., Sozio, E., Rossolini, G.M. 2019. AmpC β -lactamase-producing *Enterobacteriales*: what a clinician should know. *Infection*, 47(3):363–375.
- Mylvaganam, H., Kolstad, H., Breistein, R.I., Lind, G., Skutlaberg, D.H. 2017. Extended spectrum cephalosporin resistance among clinical isolates of *Enterobacteriaceae* in West Norway during 2006–2013; a prospective surveillance study. *APMIS*, 125(1):52–58.
- Nakai, H., Hagihara, M., Kato, H., Hirai, J., Nishiyama, N., Koizumi, Y., Sakanashi, D., Suematsu, H., Yamagishi, Y., Mikamo, H. 2016. Prevalence and risk factors of infections caused by extended-spectrum β -lactamase (ESBL)-producing *Enterobacteriaceae*. *J. Infect. Chemother.*, 22(5):319–326.
- Nelson, G.E., Greene, M.H. 2020. Enterobacteriaceae. In: Bennet, J.E., Dolin, R., and Blaser, M.J., editors, *Mand. Douglas, Bennett's Princ. Pract. Infect. Dis.* 9th ed. Philadelphia, PA: Elsevier Ltd, 2669–2685. Available at: <https://www-clinicalkey-com.ezproxy.ugm.ac.id/#!/content/book/3-s2.0-B9780323482554002186?scrollTo=%23hl0001608>.
- Ngurah, G., Priyaka, K., Made, N., Tarini, A., Nengah, N., Fatmawati, D., Klinik, M., Sanglah, R. 2019. Deteksi molekuler gen AmpC pada isolat klinis *Klebsiella pneumoniae* penghasil ESBL di RSUP Sanglah Denpasar. *E-Jurnal Med. Udayana*, 8(11):2597–8012.
- Paczosa, M.K., Mecsas, J. 2016. *Klebsiella pneumoniae*: going on the offense with a strong defense. *Microbiol. Mol. Biol. Rev.*, 80(3):629–661.
- Park, Y.S., Yoo, S., Seo, M.R., Kim, J.Y., Cho, Y.K., Pai, H. 2009. Risk factors and clinical features of infections caused by plasmid-mediated AmpC β -lactamase-producing *Enterobacteriaceae*. *Int. J. Antimicrob. Agents*, 34(1):38–43.
- Park, Y.S., Adams-Haduch, J.M., Shutt, K.A., Yarabinec, D.M., Johnson, L.E., Hingwe, A., Lewis, J.S., Jorgensen, J.H., Doi, Y. 2012. Clinical and Microbiologic Characteristics of Cephalosporin-Resistant *Escherichia coli* at Three Centers in the United States.
- Pascual, V., Ortiz, G., Simó, M., Alonso, N., Garcia, M.C., Xercavins, M., Rivera, A., Morera, M.A., Miró, E., Espejo, E., Navarro, F., Gurguí, M., Pérez, J., Rodríguez-Carballeira, M., Garau, J., Calbo, E. 2015. Epidemiology and risk factors for infections due to AmpC β -lactamase-producing *Escherichia coli*. *J. Antimicrob. Chemother.*, 70(3):899–904.
- Patil, A.B., Medegar, S., Professor, A. 2020. Multivariate analysis of risk factors



for ESBL and AmpC producing *Escherichia coli* and *Klebsiella pneumoniae* at a Tertiary Care Hospital in Karnataka: A case control study. *Indian J. Microbiol. Res.*, 5(1):1–6.

PPRA RSUP Dr. Sardjito. 2021. *Laporan PPRA RSUP Dr. Sarjito Tahun 2021*. Yogyakarta: RSUP Dr. Sardjito.

Rand, K.H., Turner, B., Seifert, H., Hansen, C., Johnson, J.A., Zimmer, A. 2011. Clinical laboratory detection of AmpC β -lactamase: does it affect patient outcome? *Am. J. Clin. Pathol.*, 135(4):572–576.

Robatjazi, S., Nikkhahi, F., Niazadeh, M., Amin Marashi, S.M., Peymani, A., Javadi, A., Kashani, A.H. 2021. Phenotypic Identification and Genotypic Characterization of Plasmid-Mediated AmpC β -Lactamase-Producing *Escherichia coli* and *Klebsiella pneumoniae* Isolates in Iran. *Curr. Microbiol.*, 78(6):2317–2323.

Rodríguez-Baño, J., Miró, E., Villar, M., Coelho, A., Gozalo, M., Borrell, N., Bou, G., Conejo, M.C., Pomar, V., Aracil, B., Larrosa, N., Agüero, J., Oliver, A., Fernández, A., Oteo, J., Pascual, A., Navarro, F. 2012. Colonisation and infection due to *Enterobacteriaceae* producing plasmid-mediated AmpC β -lactamases. *J. Infect.*, 64(2):176–183.

Singhal, S., Mathur, T., Khan, S., Upadhyay, D.J., Chugh, S., Gaind, R., Rattan, A. 2005. Evaluation of methods for AmpC β -lactamase in Gram negative clinical isolates from tertiary care hospitals. *Indian J. Med. Microbiol.*, 23(2):120–124.

Tang, W., Hu, J., Zhang, H., Wu, P., He, H. 2015. Kappa coefficient: a popular measure of rater agreement. *Shanghai Arch. Psychiatry*, 27(1):62.

Tekele, S.G., Teklu, D.S., Tullu, K.D., Birru, S.K., Legese, M.H. 2020. Extended-spectrum beta-lactamase and AmpC beta-lactamases producing gram negative bacilli isolated from clinical specimens at International Clinical Laboratories, Addis Ababa, Ethiopia. *PLoS One*. Edited by G. Wo?niakowski, 15(11):e0241984.

Tewari, R., Mitra, S.D., Ganaie, F., Venugopal, N., Das, S., Shome, R., Rehman, H., Shome, B.R. 2018. Prevalence of extended spectrum β -lactamase, AmpC β -lactamase and metallo β -lactamase mediated resistance in *Escherichia coli* from diagnostic and tertiary healthcare centers in South Bangalore, India. *Int. J. Res. Med. Sci.*, 6(4):1308.

Tsui, K., Wong, S.S., Lin, L.C., Tsai, C.R., Chen, L.C., Huang, C.H. 2012. Laboratory identification, risk factors, and clinical outcomes of patients with bacteremia due to *Escherichia coli* and *Klebsiella pneumoniae* Producing Extended-Spectrum and AmpC type β -Lactamases. *J. Microbiol. Immunol. Infect.*, 45(3):193–199.

World Health Organization, W. 2018. *DDD-Definition and general considerations*.



Available at: https://www.whocc.no/ddd/definition_and_general_consideration/
(Accessed: 30 November 2022).

- Wu, M., Li, X. 2015. *Klebsiella pneumoniae* and *Pseudomonas aeruginosa*. In: Tang, Y.-W. et al., editors, *Mol. Med. Microbiol.* 2nd Ed. Philadelphia, PA: Elsevier, 1547–1564.
- Yilmaz, N.O., Agus, N., Bozcal, E., Oner, O., Uzel, A. 2013. Detection of plasmid-mediated AmpC β-lactamase in *Escherichia coli* and *Klebsiella pneumoniae*. *Indian J. Med. Microbiol.*, 31(1):53–59.
- Zerr, D.M., Miles-Jay, A., Kronman, M.P., Zhou, C., Adler, A.L., Haaland, W., Weissman, S.J., Elward, A., Newland, J.G., Zaoutis, T., Qin, X. 2016. Previous antibiotic exposure increases risk of infection with extended-spectrum-β-lactamase- and AmpC-producing *Escherichia coli* and *Klebsiella pneumoniae* in pediatric patients. *Antimicrob. Agents Chemother.*, 60(7):4237–4243.
- Zhang, Q., Zhang, W., Li, Z., Bai, C., Li, D., Zheng, S., Zhang, P., Zhang, S. 2017. Bacteraemia due to AmpC β-lactamase-producing *Escherichia coli* in hospitalized cancer patients: risk factors, antibiotic therapy, and outcomes. *Diagn. Microbiol. Infect. Dis.*, 88(3):247–251.