

BAB V

KESIMPULAN DAN SARAN

5.1. Kesimpulan

Dari hasil penelitian dan analisis data dapat disimpulkan bahwa ada hubungan linier antara kadar sulfametoksazol dalam matriks tablet yang ditetapkan secara KLT-densitometri dengan aktivitas antibakteri yang dinyatakan dengan diameter daerah hambatan pertumbuhan terhadap *Staphylococcus aureus* ATCC 25923 pada $\alpha=0,05$ yang dinyatakan dengan persamaan garis $y = 0.002 x + 2,208$ ($n = 7$; $r = 0,940$; $F = 38,039$).

5.2. Saran

Saran yang dapat disampaikan berdasarkan penelitian ini adalah:

Dengan adanya hubungan linier yang bermakna antara kadar sulfametoksazol dalam matriks tablet secara KLT-densitometri dengan aktivitas antibakteri yang dinyatakan dengan diameter daerah hambatan pertumbuhan (DHP) melalui metode difusi sumuran terhadap bakteri *Staphylococcus aureus* ATCC 25923, maka metode KLT-Densitometri dapat dipakai sebagai salah satu metode penetapan kadar secara kimia dari sulfametoksazol.

DAFTAR PUSTAKA

- Acar, J. F. and Goldstein, F. W., 1991. Disk susceptibility test. In: Lorian V (ed), *Antibiotics in Laboratory Medicine*, 3rd edition, The William and Wilkins Company, Baltimore, p. 50.
- Anand, N., 1989. Metabolite antagonism. In: Foye, W.O.(Ed), *Principles of Medicinal Chemistry*, 3rd edition, Lea and Febiger, London, pp. 637-649.
- Baron, E.J. and Finegold, S.M., 1990. *Bailey and Scott's Diagnostic Microbiology*, The C.V. Mosby Company, St. Louis, pp. 103-105, 181-188.
- Barry, A. L., 1991. Procedures and theoretical consideration for testing antimicrobial agents in agar media. In: Lorian V (ed), *Antibiotics in Laboratory Medicine*, 3rd edition, The William and Wilkins Company, Baltimore, p. 12.
- Boyd, R.F., 1995. *Basic Medical Microbiology*, 5th edition, Little Brown and Company, Inc, Boston, pp. 247-251.
- British Pharmacopoeia*. Volume II, 2004. The Stationery Office, London, p. 482.
- Brooks, G.F., Butel, J.S., Morse, S.A., 2001. *Mikrobiologi Kedokteran*. (Mudihadi, H., Kuntaman, Wasito, E.B., Mertaniasih, N.M., Harsono S., Alimsardjono, L., penerjemah). Penerbit Salemba Medika, Jakarta, pp. 319-320.
- Clarke's Isolation and Identification of Drugs in Pharmaceuticals, Body Fluids, and Postmortem Material*, 2nd edition, 1986. The Pharmaceutical Press, London, p. 988.
- Christianawati, 2001. Penerapan metode spektrofotometri dengan cara kurva turunan pertama dan tiga panjang gelombang pada penetapan kadar sulfametoksazol-trimethoprim dalam campuran. *Skripsi Sarjana Farmasi*, Fakultas Farmasi Universitas Katolik Widya Mandala, Surabaya, hal. 24-40.
- Dajan, A., 1994. *Pengantar Metode Statistik*, jilid II, PT Pustaka LP3ES Indonesia, anggota IKAPI, Jakarta, hal. 386.
- Deinstroop, E.H., 2000. *Applied Thin Layer Chromatography: best practice and avoidance of mistakes*, Wiley-VCH, Weinheim, p. 4.

- Edberg, S.C. and Berger S.A., 1986. *Antibiotika dan Infeksi*. (Sanusi C., penerjemah). EGC. Penerbit Buku Kedokteran, Jakarta, pp. 201-213.
- Farmakope Indonesia edisi IV*, 1995. Departemen Kesehatan RI, Jakarta, pp. 769-770.
- Gasparic, J. and Churacek, J., 1978. Laboratory Hand book of Paper and thin Layer Chromatography, John Wiley & Sons, New York, pp. 11-82.
- Hamburger, M.O. & Cordell, G.A., 1987. A Direct Bioautographic TLC Assay for Compounds Possesing Antibacterial Activity, *Journal Of Natural Product* **50**,19-22.
- Jawetz, E, Melnick J.L., Adelberg E.A., , 1986. *Mikrobiologi untuk Profesi Kesehatan*, edisi XVI. (Tonang, H., penerjemah). Penerbit Buku Kedokteran, Jakarta, pp. 239-244.
- Joklik, W.K., Willet, H.P., Amos, D.B., 1980. *Zinsser Microbiology*, 17th edition, Appleton Century Crofts, New York, pp. 534-550.
- Jones, D.S., 2002. *Pharmaceutical Statistics*, Pharmaceutical Press, London, pp. 15-34, 167-172, 459-554.
- Kucers, A, and Bennett, N.M., 1979. *The Use of Antibiotics: a comprehensive review with clinical emphasis* 3rd ed, Willian Heireman Medical Book LTD, London, p. 693.
- Kulikov, U., Veruskin.A.G. and Loginova, L., 2005. Comparison of micellar and reversed-phase liquid chromatography for determination of sulfamethoxazole and trimethoprim, *Journal Chromatographia*, **61**, 9-10.
- Lund, W., 1994. *The Pharmaceutical Codex* 12nd edition, The Pharmaceutical Press, London, pp. 1051-1054.
- Mac Faddin, J. F., 1980. *Biochemical Test for Identification of Medical Bacteria*, 2nd edition, William and Wilkins, Baltimore-London, p. 482.
- Madigan, M.T. and Matinko, J.M., 2006. *Brock Biology of Microorganism*, 11st edition, Pearson Education, Inc, London, pp. 66-79, 374-375.
- Mariana, Y. dan Setiabudy, R., 2003. Sulfonamid, kotrimoksazol dan antiseptik saluran kemih. In: Ganiswarna, S.G.(ed), *Farmakologi dan Terapi* edisi IV,

Bagian Farmakologi Fakultas Kedokteran Universitas Indonesia, Jakarta, hal. 584-590.

- Prosek, M and Vovk, I., 2003. Basic principles of optical quantification in TLC. In: Sherma, J and Fried, B. (eds), *Handbook of Thin Layer Chromatography: revised and expanded*, 3rd edition, Marcel Dekker, Inc, New York, pp. 279-294.
- Rahalison et al., 1991. A Bioautographic Agar Overlay Method for Detection of Antifungal Compounds from Higher Plant, *Phytochemical Analysis*, **2**, 199-203.
- Richel, W.A., 1988. *Handbook of Basic Pharmacokinetics*, 3rd edition, Drug Intelegence Publication inc., Cincinate, p.315.
- Rudy B.C. and Senkowski, 1973. Sulfamethoxazole. In: Florey, K (ed), *Analytical Profiles of Drug Substances Volume 2*, Academic Press, NewYork, pp. 478-485.
- Sherma, J., 2003. Basic TLC techniques, materials, and apparatus. In: Sherma, J and Fried, B. (eds), *Handbook of Thin Layer Chromatography: revised and expanded*, 3rd edition, Marcel Dekker, Inc, New York, pp. 5, 30-37.
- Skoog, D.A., 1985. *Principles of Instrumental of Analysis*, 3rd edition, Sounders College, Stanford University, New York, pp. 727-730.
- Soedigdo, S., Soedigdo, P., 1977. *Pengantar Cara Statistika Kimia*. Penerbit ITB Bandung, Bandung, hal.42.
- Soekardjo, B. dan Sondakh, R., 2000. Hubungan struktur-aktivitas turunan sulfonamida sebagai antimikroba. In: Siswandono dan Soekardjo, B.(eds), *Kimia Medisinal* edisi II, Universitas Airlangga Press, Surabaya, hal. 97-105.
- Sudigdo, 2003. Penerapan Metode KLT-Densitometri untuk Penetapan Kadar Campuran Sirup Sulfametoksazol dan Trimetoprim. *Skripsi Sarjana Farmasi*, Fakultas Farmasi Universitas Katolik Widya Mandala, Surabaya, hal. 35-37.
- Sweetman, S.C., 2002. *Martindale: one complete drug reference*, 33rd edition, Pharmaceutical Press, London, pp. 254-255.

- Szepesi, G., 1990. Quantitation in thin layer chromatography, In: Grinberg, N.(Ed), *Modern Thin Layer Chromatography*, Marcel Dekker, Inc, New York, pp. 249-252, 302-305.
- Talaro, A. and Talaro, K. P., 1999. *Foundations in Microbiology*, 3rd edition, The McGraw Hill Companies, Inc, Boston, pp. 360-361.
- Tortora, G.J., Funke, B.R., Case, C.L., 2001. *Microbiology: an introduction*, Addison Wesley Longman, Inc, San Fransisco, pp. 690-691, 797.
- Touchstone, J.C. and Dobbins, M.F., 1983. *Practice of Thin Layer Chromatography*, 2nd edition, John Wiley & Sons, New York, pp. 107, 361-368.
- Ulett, G.C., Hirst, R., Bowden, B., Powell, K., Norton, R., 2003. A comparison of antibiotic regimens in the treatment of acute meliodiosis in a mouse model, *Journal of Antimicrobial Chemotherapy*, **51**,77-78.
- USP XXIX/NF 24, 2006. *The United States Pharmacopoea: the national formulary*, The USP Convention, Rockville, pp. 2034-2037.
- USP DI: Drug Information for the Health Care Professional*, 21st edition, Volume 2, 2001. Micromedex Thomson Health Care, Englewood, pp. 2732-2736.