

BAB 5

KESIMPULAN DAN SARAN

5.1. Kesimpulan

Berdasarkan hasil analisis dapat disimpulkan bahwa metode KCKT yang dikembangkan dengan fase diam kolom *reversed phase* C-18 dengan kecepatan alir 0,6 mL/menit dan fase gerak asetonitril : dapar fosfat 0,04 M pH 3,5 (54:46, %v/v) dapat digunakan untuk penetapan kadar valsartan dalam plasma darah manusia secara *in vitro*.

5.2. Saran

Berdasarkan hasil penelitian yang diperoleh, disarankan untuk melakukan penelitian atau pengembangan lebih lanjut terhadap penetapan kadar valsartan dalam plasma darah manusia secara *in vivo*.

DAFTAR PUSTAKA

- Abdallah, O.M., dan Zeid, K.A. 2013, HPLC- fluorescence determination of valsartan in human volunteers and its application in bioequivalence study of two valsartan tablets, *Life Science Journal*, **10(2)**: 583-590.
- American Pharmacist Association, 2013, *Drug Information Handbook*, Edisi 22, Hudson: Lexi-Comp.
- Anonim, 2015, Protein Crash and Protein Precipitation, <http://www.orochem.com/index>, Diakses pada tanggal 25 Desember 2015.
- Anonim, 2015, Diovan Sales Data, [online], <http://www.drugs.com/stats/diovan>, Diakses tanggal 20 Agustus 2015.
- Badan Pengawas obat dan makanan, 2012, *Pedoman cara pembuatan obat yang baik*, Jakarta: Badan POM RI.
- Bolton, S. dan Bon, C. 2010, *Pharmaceutical Statistics: Practical and Clinical Applications* (5th ed.), USA: Informa Healthcare USA.
- Braithwaite, A. dan Smith, F.J. 1999, *Chromatographic Methods*, Edisi Kelima, Kluwer Academic Press, Dordrecht, The Netherlands.
- British Pharmacopoeia Commision, 2013, *British Pharmacopoeia 2013*, London, England: Stationary Office.

Brown, P.R., Grushka, E., dan Lunte, S., 2005, *Advances in Chromatography*, Marcel Dekker, USA.

Brunton, L.L., Parker, K.L., Blumenthal, D.K. dan *et.al.* (Eds). 2011, *Goodman & Gilman's : manual farmakologi dan terapi*, EGC, Jakarta.

Convention, U.S.P., 2009, *USP 32 NF 32 : United States Pharmacopeia and National Formulary*, Vol. 2, United States Pharmacopeial Convention, Rockville.

Council of Europe., European Pharmacopoeia Commission. & European Directorate for the Quality of Medicines & Healthcare. (2004). European pharmacopoeia 5.0. Strasbourg: Council Of Europe.

El-Gizawy, S.M., Abdelmageed, O.H., Omar, M.A., Deryea, S.M., Abdel-Megied, A.M. 2012. Development and validation of HPLC method for simultaneous determination of Amlodipine, Valsartan, Hydrochlorothiazide in dosage form and spiked human plasma, *American Journal of Analytical Chemistry*, **3**: 422-430.

Food and Drug Administration, 2001, *Environmental Assessment Diovan (Valsartan capsules)*. Center for Drug Evaluation and Research.

Frank, T.C., Dahuron, L., Holden, B.S., Prince, W.D., Seibert, A.F., dan Wilson, L.C. 2008, *Perry's Chemical Engineers' Handbook*, Edisi Delapan, McGRAW-Hill, USA.

Gandjar, I.G. dan Rohman, A. 2012, *Analisis obat secara spektrofotometri dan kromatografi*, Pustaka Pelajar, Yogyakarta.

Gonzales, A.G. dan Herrador, M.A. 2007, A practical guide to analytical method validation, including measurement uncertainty and accuracy profiles, *Trends in Analytical Chemistry*, **26**: 227-238.

Gonzales, A.G., Herrador, M.A. dan Asuero, A.G. 2010. *Intra-laboratory assessment of method accuracy (trueness and precision) by using validation standard*. *Talanta* 82, hal. 1995-1998.

Gonzalez, O., Iriarte, G., Rico, E., Ferreiros, N., Maguregui, M.I., dan Alonso, R.M. 2010, LC-MS/MS method for the determination of several drugs used in combined cardiovascular therapy in human plasma, *Journal of Chromatography B*, **878(28)**: 2685-2692.

Gumustas, M., Kurbanoglu, S., Uslu, B., dan Ozkan, S.A. 2013, UPLC versus HPLC on Drug Analysis: adventageous, applications and their validation parameters, *Chromatographia*, **76**: 1365-1427.

Hermiyati, S. 1995, Optimasi fase gerak pada HPLC untuk penetapan kadar asam salisilat dalam sampel air dan plasma, *Skripsi Sarjana Farmasi*, Fakultas Farmasi Universitas Airlangga, Surabaya, Hal: 18-31.

Heftmann, E, (2004), *Chromatography: Fundamentals and applications of chromatography and related differential migration methods* (6th ed.), Elsevier, Amsterdam.

International Conference on Harmonisation, 2005, *Validation of analytical procedures: text and methodology Q2(R1)*, ICH Harmonised Tripartite Guideline.

ISO/IEC 17025, 2005, *General requirements for the competence of testing and calibration laboratories*.

Junaidi. 2016, Tabel r (koefisien korelasi sederhana), <http://junaidichaniago.wordpress.com>, Diakses tanggal 22 Februari 2016.

Kendre, M.D. dan Banerjee, S.K. 2012, Precise and Accurate RP-HPLC Method Development for quantification of Valsartan in tablet dosage form, *International Journal of Pharmaceutical Sciences and Drug Research*, **4(2)**: 137-139.

Kenkel, J.V., 2002, *Analytical Chemistry for Technicians 3rd edition*. CRC Press LLC, Florida, hal. 28-29.

Macek, J., Klima, J. dan Ptacek, P., 2006, Rapid determination of valsartan in human plasma by protein precipitation and high-perfomance liquid chromatography, *Journal of Chromatography B*, **832**: 169-172.

Mak, W.Y., Tan, S.S., Wong, J.W., Chin, S.K., Lim, A.B., *et.al.* 2015, Bioequivalence study of two Valsartan 160 mg formulations: An Open-Label, Randomised-Sequence, Single-Dose, Two-Way Crossover Study in healthy volunteers under fasting conditions, *Journal Bioequiv Availab*, **7(4)**: 179-183.

McEvoy, G.K., et.al. 2005, *AHFS Drug Information*, American Society of Health-System Pharmacists, USA.

McMaster, M.C., 2007, *HPLC, a Practical User's Guide 2nd edition*. John Wiley & Sons, Inc. New Jersey.

Meyer, V.R. 2010, *Practical High-Perfomance Liquid Chromatography, Fifth edition*, John Wiley & Sons Ltd, West Sussex, United Kingdom.

Moffat, A.C., Osselton, M.D. dan Widdop, B. 2011, *Clarke's Analysis of Drugs and Poisons*, Pharmaceutical Press, London, UK.

Mulja, H.M. dan Suharman, 1995, *Analisis Instrumental*, Airlangga University Press, Surabaya.

Ramalingam, K. dan Ekambaram, J. 2013, Quantification of clebopride in human plasma (in-vitro) by RP-HPLC method, *Journal of Pharmacy Research*, 7(2): 167-171.

Reddy, B.N., Reddy, U.C., Nagarjuna, P., dan Kumar, CH.D., 2010, RP-HPLC method development and validation of Valsartan tablet dosage form, *Journal of Chemical and Pharmaceutical Research*, hal. 878-886.

Skoog, D.A., Holler, F.J., dan Crouch, S.R., 2007, *Principles of Instrumental Analysis*, Brooks Cole, USA.

Pendit, B.U. dan Yesdelita, N. 2014, *Fisiologi Manusia: dari sel ke sistem*, EGC, Jakarta.

Sweetman, S.C., 2009, *Martindale The Complete Drug Reference*, Edisi 36,
Pharmaceutical Press, USA.

Wellington, K. Dan Faulds, D.M. 2002, Valsartan/Hydrochlorothiazide,
Journal Drugs, **62(13)**: 1983-2005.