

DAFTAR PUSTAKA

1. World Health Organization. Global Tuberculosis Report 2018. Geneva; 2018.
2. World Health Organization. Global Tuberculosis Report 2017. Geneva; 2017.
3. World Health Organization. Treatment Guidelines for Drug Resistant Tuberculosis 2016. Geneva; 2016.
4. Klein DJ, Boukouvala S, McDonagh EM, Shuldiner SR, Laurieri N, Thorn CF, et al. PharmGKB summary: Isoniazid Pathway, Pharmacokinetics (PK). *Pharmacogenet Genomics*. 2016; 26(9): 436–44.
5. Yuliwulandari R, Susilowati RW, Wicaksono BD, Viyati K, Prayuni K, Razari I, et al. NAT2 Variants Are Associated With Drug-Induced Liver Injury Caused By Anti-Tuberculosis Drugs In Indonesian Patients With Tuberculosis. *J Hum Genet*. 2016; 61(6): 533–7.
6. Chen B, Li JH, Xu YM, Wang J, Cao XM. The Influence Of NAT2 Genotypes On The Plasma Concentration Of Isoniazid And Acetylisoniazid In Chinese Pulmonary Tuberculosis Patients. *Clin Chim Acta*. 2006;365(1–2):104–8.
7. Ellard GA. Variations Between Individuals And Populations In The Acetylation Of Isoniazid And Its Significance For The Treatment Of Pulmonary Tuberculosis. *Clin Pharmacol Ther* 1976; 19(5 Pt 2) : 610-25.
8. Choi R, Jeong BH, Koh WJ, Lee YS. Recommendations for Optimizing Tuberculosis. Treatment: Therapeutic Drug Monitoring Pharmacogenetics, and Nutritional Status Consideration. *Ann Lab Med*. 2017; 37:97-107
9. Hein DW, Doll MA, Fretland AJ, Leff MA, Webb SJ, Xiao GH, Devanaboyina US, Nangju NA, Feng Y. Molecular Genetics And Epidemiology Of The NAT1 And NAT2 Acetylation Polymorphism. *Cancer Epidemiol*. 2000;9:29–42
10. Kilbane AJ, Silbart LK, Manis M, Beitins IZ, Weber WW. Human N- acetylation Genotype Determination With Urinary Caffeine Metabolites. *Clin Pharmacol Ther* 1990;47:470–77
11. Kinzig-Schippers M, Tomalik-Scharte D, Jetter A, Scheidel B, Jakob V, Rodamer M, Cascorbi I, Doroshyenko O, Sorgel F, Fuhr U. Should we use N-Acetyltransferase Type 2 Genotyping To Personalized Isoniazid Doses? *Antimicrob Agents Chemother*. 2005;49(5):1733–38

12. Parkin DP, Vandenplas S, Botha FJ, Vandenplas ML, Seifart HI, vanHelden PD, van der Walt BJ, Donald PR, van Jaarsveld PP. Trimodality Of Isoniazid Elimination: Phenotype And Genotype In Patients With Tuberculosis. *Am J Respir Crit Care Med* 1997;155: 1717–1722
13. Sabbagh A, Langaney A, Darlu P, Gérard N, Krishnamoorthy R, Poloni ES. Worldwide Distribution of NAT2 Diversity: Implications For NAT2 Evolutionary History. *BMC Genet.* 2008; 9(2): 0–14.
14. Yuliwulandari R, Sachrowardi Q, Nishida N, Takasu M, Batubara L, Susmiarsih TP, et al. Polymorphisms Of Promoter And Coding Regions Of The Arylamine N-Acetyltransferase 2 (NAT2) Gene In The Indonesian Population: Proposal For A New Nomenclature. *J Hum Genet.* 2008; 53(3): 201–9.
15. Zabost A, Brzezińska S, Kozińska M, Błachnio M, Jagodziński J, Zwolska Z, Et Al. Correlation Of N-Acetyltransferase 2 Genotype With Isoniazid Acetylation In Polish Tuberculosis Patients. *Biomed Res Int.* 2013;1-5.
16. Pasipanodya JG, Srivastava S, Gumbo T. Meta-Analysis Of Clinical Studies Supports The Pharmacokinetic Variability Hypothesis For Acquired Drug Resistance And Failure Of Antituberculosis Therapy. *Clinical Infectious Diseases.* 2012;55(2):169–77.
17. Wahyudi AD, Soedarsono. Farmakogenomik Hepatotoksisitas Obat Anti Tuberkulosis. *Jurnal Respirasi (JR).* 2015;1(3): 103- 108
18. Singh N, Dubey S, Chinnaraj S, Golani A, Maitra A. Study of NAT2 Gene Polymorphisms In An Indian Population: Association With Plasma Isoniazid Concentration In A Cohort Of Tuberculosis Patients. *Mol Diagnosis Ther.* 2009;13(1): 49–58.
19. Kumar K, Swaminathan S. N-acetyltransferase Gene Polymorphism & Plasma Isoniazid Concentration In Patient With Tuberculosis. *Indian J Med Res.* 2017;145(1): 118-23
20. World Health Organization. Global Tuberculosis Report 2016. Geneva; 2016.
21. Bloss E, Kukša L, Holtz TH, Riekstina V, Skripčonoka V, Kammerer S, et al. Adverse Events Related To Multidrug-Resistant Tuberculosis Treatment 2000-2004. *Int J Tuberc Lung Dis:* 14(3): 275-8.
22. Monedero I, Caminero JA. Management Of Multidrug-Resistant Tuberculosis: An Update. *Ther Adv Respir Dis.* 2010; 4(2): 117–27.
23. Tamsil TA, Nawas A, Sutoyo DK. Pengobatan Multidrug Resistant Tuberculosis (MDR TB) Dengan Paduan Jangka Pendek. *J Respir. Indones.* 2014;34(2): 109-21.

24. Reviono et al. Multidrug Resistant Tuberculosis (MDR-TB): Tinjauan Epidemiologi dan Faktor Risiko Efek Samping Obat Anti Tuberkulosis Multidrug Resistant Tuberculosis (MDR-TB). MKB. 2014;46(4):189–96.
25. Kementerian Kesehatan Republik Indonesia Direktorat Jenderal Pencegahan dan Pengendalian Penyakit. Petunjuk Teknis Pengobatan TB Resistan Obat dengan Paduan Standar Jangka Pendek di Fasyankes Jakarta: Kementrian Kesehatan Republik Indonesia;2017
26. Dooley KE, Miyaharu S, Von Groote-Bidlingmaler F, Sun X, Hafner R, Rosenkranz SL et al. A5312 Study Team; Early Bacterial Activity On Different Isoniazid Doses For Drug Resistant Tuberculosis (Inhinsight) A Randomized Open Label Clinical Trial. Am J Respir Crit Care. 2020;201:1416-24
27. World Health Organization. Treatment Of Tuberculosis; Guidelines For National Programmers, 3rd edition 2013. Geneva; 2013.
28. Hardman JG, Limbird LE, Molinoff PB, Ruddon RW, Goodman AG. Goodman and Gilman's The Pharmacological basis of therapeutics 9th edition. New York. 1996
29. Nelson SD, Mitchell JR, Timbrell JA, Snodgrass WR, Corcoran GB. Isoniazid And Iproniazid: Activation Of Metabolites To Toxic Intermediate In Man And Rat. Science 1976; 193(4256):901-3
30. Timbrell JA. Mitchell JR, Snoggrass WR, Nelson SD. Isoniazid Hepatotoxicity: The Relationship Between Covalent Binding And Metabolism In Vivo. Journal Of Pharmacology And Experimental Therapeutics. 1980;364-9
31. Lee Wm. Drug Induced Hepatotoxicity. New England Journal of Medicine. 2003;349:474-85
32. Field SK, Fisher D, Jarand JM, Cowie RL. New Treatment Option For Multidrug Resistant Tuberculosis. Ther Adv Resp Dis. 2012;6(5):255-68
33. World Health Organization. Treatment Guidelines For Isoniazid Resistant Tuberculosis 2018. Geeneva; 2018
34. Katiyar SK, Bihari S, Prakash S, Mamtani M, Kulkarni H. A Randomised Controlled Trial Of Trial High Dose Isoniazid Adjuvant Therapy For Multidrug Resistant Tuberculosis. Int j Tuberc Lung Dis. 2008;12(12):139-145
35. Blum M, Demierre A, Grant DM, Helm M, Meyer UA. Human N-acetyltransferase Genes: Isolation, Chromosomal Localisation And Functional Exspression. DNA Cell Biol. 1991;193-203

36. Yuliwulandari R, Prayuni K. Polimorfisme Gen N-acetyltransferase 2 (NAT2) dan Farmakogenomik Dalam Pengobatan TB. Bunga Rampai Forum Peneliti Muda Indonesia. 2013
37. Pramono AA, Penggoam AI, Sahiratmadja E, Utami NV, Achmad TH , Panigoro R. Status Asetilator Gen NAT2 Pada Pasien Tuberkulosis dan Tuberkulosis Dengan Diabetes Melitus di Kupang, Nusa Tenggara Timur. MKB. 2017;49(1):61–6
38. Patin E, Harmant C, Kidd KK, Kidd J, Froment A, Mehdi SQ, et al. Sub-Saharan African Coding Sequence Variation And Haplotype Diversity At The NAT2 Gene. Hum Mutat. 2006;27(7):720
39. Daly AK. Pharmacogenetics And Human Genetic Polymorphisms. Biochem J 2010;429:435– 449
40. Crettol S, Petrovic N, Murray M: Pharmacogenetics Of Phase I And Phase II Drug Metabolism. Curr Pharm Des 2010;16:204– 219.
41. Mitchell RS, Bell JC. Clinical Implications Of Isoniazid, PAS And Streptomycin Blood Levels In Pulmonary Tuberculosis. Trans Am Clin Climatol Assoc 1957;69:98– 102
42. Harris HW, Knight RA, Selin MJ. Comparison Of Isoniazid Concentrations In The Blood Of People Of Japanese And European Descent: Therapeutic And Genetic Implications. Am Rev Tuberc 1958;78:944– 948.
43. McDonagh EM, Boukouvala S, Aklillu E, Hein DW, Altman RB, Klein TE. PharmGKB Summary: Very Important Pharmacogene Information For Nacetyltransferase 2. Pharmacogenet Genomics 2014;24:409-25.
44. Perwitasari DA, Atthobari J, Wilffert B. Pharmacogenetics Of Isoniazid Induced Hepatotoxicity. Drug Metab Rev 2015;47:222-8.
45. Matsumoto T, Ohno M, Azuma J. Future Of Pharmacogenetics-Based Therapy For Tuberculosis. Pharmacogenomics 2014;15:601-7.
46. Jung JA, Kim TE, Lee H, Jeong BH, Park HY, Jeon K, et al. A Proposal For An Individualized Pharmacogenetic-Guided Isoniazid Dosage Regimen For Patients With Tuberculosis. Drug Des Devel Ther 2015;9:5433-8
47. Azuma J, Ohno M, Kubota R, Yokota S, Nagai T, Tsuyuguchi K, et al. NAT2 Genotype Guided Regimen Reduces Isoniazid-Induced Liver Injury And Early Treatment Failure In The 6-Month Four-Drug Standard Treatment Of Tuberculosis: A Randomized Controlled Trial For Pharmacogenetics-Based Therapy. Eur J Clin Pharmacol. 2013;69(5):1091– 101.

48. Alsultan A, Peloquin CA. Therapeutic Drug Monitoring In The Treatment Of Tuberculosis: An Update. *Drugs*. 2014;74(8):839–54.
49. Peloquin CA, Namdar R, Dodge AA, Nix DE. Pharmacokinetics Of Isoniazid Under Fasting Condition, With Food And With Antacids. *Int J Tuber Lung Dis*. 1999;3(8):7-3-10.
50. Lemeshow, Stanley, Hosmer, David W, Klar, Janelle et al. Adequency Of Samples Size In Health Studies. WHO. England. 1990
51. Kadita D, Purwastyastuti, Instiaty, Agustin H. Polimorfisme N- acetyltransferase 2 Pada Pasien TB MDR Dengan Riwayat Pengobatan Tuberculosis. Tesis Departemen Farmakologi Dan Terapetik FKUI. Jakarta. 2016
52. Basic Local Alignment Search Tool (BLAST) software server. (online) (cited 2020 Mei 1). Available from <http://www.ncbi.nih.gov/BLAST/>.
53. Boukovala S. Database of Arylamine N-Acetyltransferase (NATs). Greece: Department of Molecular Biology and Genetic. (online) (cited 2020 Mei 1). Available from: <http://nat.mbg.duth.gr>.
54. Ensembl genome.(online) (cited 2020 Juni 2); Available from www.ensembl.org.
55. National Library of Medicine. dbSNP Short genetic.(online) (cited 2020 Mei 8). Available from www.ncbi.nlm.nih.gov.
56. Weiner M, Burman W, Vernon A, Benator D, Peloquin CA, Khan A, et al. Low Isoniazid Concentrations and Outcome of Tuberculosis Treatment With Once-Weekly Isoniazid and Rifapentine. *Am J Respir Crit Care Med*. 2003;167(10):1341–7
57. Mitchison DA. How Drug Resistance Emerges As A Result Of Poor Compliance During Short Course Chemotherapy For Tuberculosis. *Int J Tuberc Lung Dis* 1998;2:10-5.
58. Prahl JB, Johansen IS, Cohen AS, Frimodt-Møller N, Andersen ÅB. Clinical Significance Of 2 Hour Plasma Concentrations Of First-Line Anti-Tuberculosis Drugs: A Prospective Observational Study. *J Antimicrob Chemother*. 2014 Oct;69(10): 2841-7
59. Chen B, Li JH, Xu YM, Wang J, Cao XM. The Influence Of NAT2 Genotypes On The Plasma Concentration Of Isoniazid And Acetylisoniazid In Chinese Pulmonary Tuberculosis Patients. *Clin Chim Acta*. 2006;365(1–2):104–8.

60. Anggarini DI, Kristin E, Dwiprahasto. The Influence Of Acetylation Status Of Tuberculosis Patients Of The Isoniazid Serum Concentrations And Sputum Conversion After Intensive Phase Therapy. *J Med Sci*. 2018; 50 (1): 56-69
61. Pradipta J, Soepandi PZ, Burhan E, Isbaniyah F, Agustin H, Handayani D, et al. Adverse Reactions Among Patients Being Treated With Shorter Multidrug Resistant Tuberculosis Regimen at Persahabatan Hospital Indonesia. *Respirology*. 2018;23:72-3
62. Udwardia FZ, Tornheim JA, Ganatra S, DeLuca A, Rodrigues SC, Gupta A. Few Eligible For The Newly Recommended Short Course MDR-TB Regimen At A Large Mumbai Private Clinic. *BMC Infectious Diseases*. 2019;19-94.
63. Susilowati RW, Prayuni K, Razari I, Bahri S, Yuliwulandari R. High Frequency Of NAT2 Slow Acetylator Alleles In The Malay Population Of Indonesia: An Awareness To The Anti Tuberculosis Drug Induced Liver Injury And Cancer. *Med J Indones*. 2017;26(1): 7–13.
64. Lin HJ, Han CY, Lin BK, Hardy S. Slow Acetylation Mutation In The Human Polymorphic N-acetyltransferase Gene In 789 Asian, Blacks, Hispanics And Whites. Application To Metabolic Epidemiology. *Am J Hum Genet*. 1993;52: 827-34
65. Hein DW, Boukovala S, Grant DM, Minchin RF, Sim E. Change In Consensus Arylamine N-acetyltransferase Gene Nomenclature. *Pharmacogenomics*. 2008;367-8
66. World Health Organization. Pharmacogenetics: Report Of WHO Scientific Group. WHO Technical Report Series,. Geneva; 1973.
67. Chen X, Song B, Jiang H, Yu K, Zhong D. A liquid Chromatography/Tandem Mass Spectrometry And Method For Simultaneous Quantification Of Isoniazid And Etambutol In Human Plasma. *Rapid Commun. Mass Spectrum*. 2005;19:2591-96
68. Caudle KE, Klein TE, Hoffman JM, Muller DJ, Whirl-Carrillo M, Gong L, et al. Incorporation Of Pharmacogenomics Into Routine Clinical Practice: The Clinical Pharmacogenetics Implementation Consortium (CPIC) Guideline Development Process. *Curr Drug Metab* 2014;15:209- 17
69. Du H, Chen X, Fang Y, Yan U, Xu H, Li L et al. Slow N- Acetyltransferase 2 Genotype Contributes To Anti Tuberculosis Drug Induced Hepatotoxicity: A Metaanalysis. *Molecular Biology Report*. 2013;40(5): 3391-96

70. World Health Organization. Technical Report On The Pharmacokinetics And Pharmacodynamics (PK/PD) Of Medicines Used In The Treatment Of Drug Resistant Tuberculosis. 2018;63



