

DAFTAR PUSTAKA

- Abdallah, A.M., Van Pittius, N.C.G., Champion, P.A.D., Cox, J., Luirink, J., Vandembroucke-Grauls, C.M.J.E., Appelmelk, B.J., Bitter, W., 2007. Type VII secretion—mycobacteria show the way. *Nat. Rev. Microbiol.* 5, 883–891.
- Abubakar, I., Drobniewski, F., Southern, J., Sitch, A.J., Jackson, C., Lipman, M., Deeks, J.J., Griffiths, C., Bothamley, G., Lynn, W., Burgess, H., Mann, B., Imran, A., Sridhar, S., Tsou, C.Y., Nikolayevskyy, V., Rees-Roberts, M., Whitworth, H., Kon, O.M., Haldar, P., Kunst, H., Anderson, S., Hayward, A., Watson, J.M., Milburn, H., Lalvani, A., Adeboyeke, D., Bari, N., Barker, J., Booth, H., Chua, F., Creer, D., Darmalingam, M., Davidson, R.N., Dediccoat, M., Dunleavy, A., Figueroa, J., Haseldean, M., Johnson, N., Losewicz, S., Lord, J., Moore-Gillon, J., Packe, G., Pareek, M., Tiberi, S., Pozniak, A., Sanderson, F., 2018. Prognostic value of interferon- γ release assays and tuberculin skin test in predicting the development of active tuberculosis (UK PREDICT TB): a prospective cohort study. *Lancet Infect. Dis.* 18, 1077–1087. [https://doi.org/10.1016/S1473-3099\(18\)30355-4](https://doi.org/10.1016/S1473-3099(18)30355-4)
- Ahmad, S., 2011. Pathogenesis, immunology, and diagnosis of latent mycobacterium tuberculosis infection. *Clin. Dev. Immunol.* 814943. <https://doi.org/10.1155/2011/814943>
- Alagarasu, K., Selvaraj, P., Swaminathan, S., Raghavan, S., Narendran, G., Narayanan, P.R., 2007. Mannose binding lectin gene variants and susceptibility to tuberculosis in HIV-1 infected patients of South India. *Tuberculosis* 87, 535–543. <https://doi.org/https://doi.org/10.1016/j.tube.2007.07.007>
- Alderwick, L.J., Birch, H.L., Mishra, A.K., Eggeling, L., Besra, G.S., 2007. Structure, function and biosynthesis of the Mycobacterium tuberculosis cell wall: arabinogalactan and lipoarabinomannan assembly with a view to discovering new drug targets. *Biochem. Soc. Trans.* 35, 1325–1328.
- Alsahy, M.M., Almehy, G.F., Hendy, R.M., Mohammad, R.S., Mohammad, Y.M., 2017. Mannose binding lectin in patients with pulmonary tuberculosis: Active and inactive. *Egypt. J. Chest Dis. Tuberc.* 66, 413–418.
- Amin, Z., Bahar, A., 2014. Tuberkulosis Paru, in: *Ilmu Penyakit Dalam*. Pusat Pendidikan Departemen Ilmu Penyakit Dalam. Fakultas Kedokteran Universitas Indonesia, Jakarta, pp. 998–1003.

- Areeshi, M.Y., Mandal, R.K., Akhter, N., Dar, S.A., Jawed, A., Wahid, M., Mahto, H., Panda, A.K., Lohani, M., Haque, S., 2016. A meta-analysis of MBL2 polymorphisms and tuberculosis risk. *Sci. Rep.* 6, 35728.
- Banfield, S., Pascoe, E., Thambiran, A., Siafarikas, A., Burgner, D., 2012. Factors associated with the performance of a blood-based interferon- γ release assay in diagnosing tuberculosis. *PLoS One* 7. <https://doi.org/10.1371/journal.pone.0038556>
- Barcellini, L., Borroni, E., Brown, J., Brunetti, E., Campisi, D., Castellotti, P.F., Codecasa, L.R., Cugnata, F., Di Serio, C., Ferrarese, M., Goletti, D., Lipman, M., Rancoita, P.M.V., Russo, G., Tadolini, M., Vanino, E., Cirillo, D.M., 2016. First evaluation of QuantiFERON-TB gold plus performance in contact screening. *Eur. Respir. J.* 48, 1411–1419. <https://doi.org/10.1183/13993003.00510-2016>
- Best, L.G., Ferrell, R.E., DeCroo, S., North, K.E., MacCluer, J.W., Zhang, Y., Lee, E.T., Howard, B. V, Umans, J., Palmieri, V., 2009. Genetic and other factors determining mannose-binding lectin levels in American Indians: the Strong Heart Study. *BMC Med. Genet.* 10, 1–7.
- Campbell, I.A., Bah-Sow, O., 2006. Pulmonary tuberculosis: diagnosis and treatment. *Bmj* 332, 1194–1197.
- Chalmers, J.D., Matsushita, M., Kilpatrick, D.C., Hill, A.T., 2015. No Strong Relationship Between Components of the Lectin Pathway of Complement and Susceptibility to Pulmonary Tuberculosis. *Inflammation* 38, 1731–1737. <https://doi.org/10.1007/s10753-015-0150-0>
- Cosar, H., Ozkinay, F., Onay, H., Bayram, N., Bakiler, A.R., Anil, M., Can, D., Özkınay, C., 2008. Low levels of mannose-binding lectin confers protection against tuberculosis in Turkish children. *Eur. J. Clin. Microbiol. Infect. Dis.* <https://doi.org/10.1007/s10096-008-0573-8>
- Da Cruz, H.L.A., Da Silva, R.C., Segat, L., de Mendonça Gomes, M.S.Z., Brandão, L.A.C., Guimarães, R.L., Santos, F.C.F., de Lira, L.A.S., Montenegro, L.M.L., Schindler, H.C., 2013. MBL2 gene polymorphisms and susceptibility to tuberculosis in a northeastern Brazilian population. *Infect. Genet. Evol.* 19, 323–329.
- Delogu, G., Sali, M., Fadda, G., 2013. The Biology of Mycobacterium Tuberculosis Infection. *Mediterr J Hematol Infect* 5. <https://doi.org/10.4084/MJHID.2013.070>
- Denholm, J.T., McBryde, E.S., Eisen, D.P., 2010. Mannose-binding lectin and susceptibility to tuberculosis: a meta-analysis. *Clin. Exp. Immunol.* 162, 84–90.

- Dommett, R.M., Klein, N., Turner, M W, Turner, Malcolm W, 2006. Mannose-binding lectin in innate immunity : past , present and future. *Tissue Antigens* 68, 193–209. <https://doi.org/10.1111/j.1399-0039.2006.00649.x>
- Dubos, R.J., Dubos, J., 1987. *The white plague: tuberculosis, man, and society*. Rutgers University Press, New Brunswick NJ.
- Eddie Ip, W.K., Takahashi, K., Alan Ezekowitz, R., Stuart, L.M., 2009. Mannose-binding lectin and innate immunity. *Immunol. Rev.* 230, 9–21.
- Eisen, D.P., 2010. Mannose-binding lectin deficiency and respiratory tract infection. *J. Innate Immun.* 2, 114–122.
- Esmail, H., Barry 3rd, C.E., Young, D.B., Wilkinson, R.J., 2014. The ongoing challenge of latent tuberculosis. *Philos Trans R soc L. B Biol Sci* 369–374.
- Eum, S.-Y., Kong, J.-H., Hong, M.-S., Lee, Y.-J., Kim, J.-H., Hwang, S.-H., Cho, S.-N., Via, L.E., Barry III, C.E., 2010. Neutrophils are the predominant infected phagocytic cells in the airways of patients with active pulmonary TB. *Chest* 137, 122–128.
- Feleke, B.E., Feleke, T.E. & Biadlegne, F., 2019. Nutritional status of tuberculosis patients, a comparative cross-sectional study. *BMC Pulm Med* 19, 182. <https://doi.org/10.1186/s12890-019-0953-0>
- Garred, P., Larsen, F., Madsen, H.O., Koch, C., 2003. Mannose-binding lectin deficiency—revisited. *Mol. Immunol.* 40, 73–84.
- Garred, P., Larsen, F., Seyfarth, J., Fujita, R., Madsen, H.O., 2006. Mannose-binding lectin and its genetic variants. *Genes Immun.* 7, 85–94.
- Gaya, M., Poppelaars, F., Kooten, C. Van, Mollnes, T.E., 2018. Age and Sex-Associated Changes of Complement Activity and Complement Levels in a Healthy Caucasian Population. *Front. Immunol.* 9, 2664. <https://doi.org/10.3389/fimmu.2018.02664>
- Gengenbacher, M., Kaufmann, S.H.E., 2012. Mycobacterium tuberculosis: success through dormancy. *FEMS Microbiol. Rev.* 36, 514–532.
- Guo, Y.-L., Liu, Y., Ban, W.-J., Sun, Q., Shi, G.-L., 2017. Association of mannose-binding lectin gene polymorphisms with the development of pulmonary tuberculosis in China. *BMC Infect. Dis.* 17, 1–7.
- Handoyo, D., Rudiretna, A., 2000. Prinsip umum dan pelaksanaan polymerase chain reaction (PCR)[general principles and

implementation of polymerase chain reaction]. *Unitas* 9, 17–29.

- Haro, D., Marrero, P.F., Relat, J., 2019. Nutritional Regulation of Gene Expression: Carbohydrate-, Fat- and Amino Acid-Dependent Modulation of Transcriptional Activity. *Int J Mol Sci.* 2019;20(6):1386. <https://doi:10.3390/ijms20061386>
- Heitzeneder, S., Seidel, M., Förster-Waldl, E., Heitger, A., 2012. Mannan-binding lectin deficiency—Good news, bad news, doesn't matter? *Clin. Immunol.* 143, 22–38.
- Hijikata, M., Matsushita, I., Le Hang, N.T., Maeda, S., Thuong, P.H., Shimbo, T., Sakurada, S., Cuong, V.C., Lien, L.T., Keicho, N., 2014. Age-dependent association of mannan-binding lectin polymorphisms with the development of pulmonary tuberculosis in Viet Nam. *Hum. Immunol.* 75, 840–846.
- Holland, S., Freeman, A., Bellanti, J., 2016. Immunity to Bacteria, in: Bellanti, J. (Ed.), *Immunology IV Clinical Applications in Health and Disease*. pp. 429–457.
- Houben, R.M.G.J., Dodd, P.J., 2016. The global burden of latent tuberculosis infection: a re-estimation using mathematical modelling. *PLoS Med.* 13, e1002152.
- Indonesia, P.D.P., 2011. *Pedoman diagnosis dan penatalaksanaan tuberkulosis di Indonesia*. Jakarta PDPI.
- Istiantoro, Y., Setiabuddy, R., 2007. Tuberkulosis dan Leprostatik, in: *Farmakologi Dan Terapi*. Departemen Farmakologi dan Terapeutik FKUI, Jakarta, pp. 613–637.
- Jacobson, S., Larsson, P., Åberg, A., Johansson, G., Winsö, O., Söderberg, S., 2020. Levels of mannan-binding lectin (MBL) associates with sepsis-related in-hospital mortality in women 1–11.
- Kasper, D., Fauci, A., Hauser, S., Longo, D., Jameson, J., Loscalzo, J., 2015. *Harrison's principles of internal medicine, 19e, 19th ed.* ed. Mcgraw-hill, New York.
- Kementerian Kesehatan Republik Indonesia, 2020a. *Pedoman Nasional Pelayanan Kedokteran Tatalaksana Tuberkulosis*. Jakarta.
- Kementerian Kesehatan Republik Indonesia, 2020b. *Petunjuk Teknis Penanganan Infeksi Laten Tuberkulosis (ILTb)*. Jakarta.
- Kementerian Kesehatan RI, 2017. *Profil kesehatan Indonesia tahun 2016*.
- Kementerian Kesehatan RI, 2016. *Profil Kesehatan Indonesia Tahun*

2015.

- Kiazyk, S., Ball, T.B., 2017. Latent tuberculosis infection: An overview. *Can Commun Dis Rep* 43, 62–66.
- Kildey, K., Rooks, K., Weier, S., Flower, R.L., Dean, M.M., 2014. Effect of age, gender and mannose-binding lectin (MBL) status on the inflammatory profile in peripheral blood plasma of Australian blood donors. *Hum. Immunol.* 75, 973–979.
- Kim, J.Y., Park, J.H., Kim, M.C., Cha, H.H., Jeon, N.Y., Park, S.Y., Kim, M.J., Chong, Y.P., Lee, S.O., Choi, S.H., Kim, Y.S., Woo, J.H., Kim, S.H., 2018. Combined IFN- γ and TNF- α release assay for differentiating active tuberculosis from latent tuberculosis infection. *J. Infect.* 77, 314–320. <https://doi.org/10.1016/j.jinf.2018.04.011>
- Koch, A., Melbye, M., Sørensen, P., Homøe, P., Madsen, H.O., Mølbak, K., Hansen, C.H., Andersen, L.H., Hahn, G.W., Garred, P., 2001. Acute respiratory tract infections and mannose-binding lectin insufficiency during early childhood. *Jama* 285, 1316–1321.
- Kumar, V., Abbas, A.K., Fausto, N., Mitchell, R., 2008. Pathology of tuberculosis. *Robbins Basic Pathology*, in: *Robbins Basic Pathology*. Elsevier, pp. 516–522.
- Lalvani, A., Pareek, M., 2010. Interferon gamma release assays : principles and practice. *Enferm. Infecc. Microbiol. Clin.* 28, 245–252. <https://doi.org/10.1016/j.eimc.2009.05.012>
- Lipscombe, R.J., Sumiya, M., Hill, A.V.S., Lau, Y.L., Levinsky, R.J., Summerfield, J.A., Turner, M.W., 1992. High frequencies in African and non-African populations of independent mutations in the mannose binding protein gene. *Hum. Mol. Genet.* 1, 709–715.
- Liu, C., He, T., Rong, Y., Du, F., Ma, D., Wei, Y., Mei, Z., Wang, Y., Wang, H., Zhu, Y., Zhang, Z., Zheng, L., Wu, X., Liu, H., Ding, W., 2016. Association of Mannose-binding Lectin Polymorphisms with Tuberculosis Susceptibility among Chinese. *Sci. Rep.* 6, 36488. <https://doi.org/10.1038/srep36488>
- Livak, K.J., Schmittgen, T.D., 2001. Analysis of relative gene expression data using real-time quantitative PCR and the 2- $\Delta\Delta$ CT method. *Methods* 25, 402–408.
- Madsen, H.O., Garred, P., Thiel, S., Kurtzhals, J.A., Lamm, L.U., Ryder, L.P., Svejgaard, A., 1995. Interplay between promoter and structural gene variants control basal serum level of mannan-binding protein. *J. Immunol.* 155, 3013–3020.

- Mandal, R.K., Khan, M.A., Hussain, A., Dar, S.A., Aloufi, S., Jawed, A., Wahid, M., Panda, A.K., Lohani, M., Akhter, N., 2019. Association of MBL2 gene polymorphisms with pulmonary tuberculosis susceptibility: trial sequence meta-analysis as evidence. *Infect. Drug Resist.* 12, 185.
- Mortaz, E., Varahram, M., Farnia, P., Bahadori, M., Masjedi, M.R., 2012. New aspects in immunopathology of *Mycobacterium tuberculosis*. *Int. Sch. Res. Not.* 963879. <https://doi.org/10.5402/2012/963879>
- Nunes-Alves, C., Booty, M.G., Carpenter, S.M., Jayaraman, P., Rothchild, A.C., Behar, S.M., 2014. In search of a new paradigm for protective immunity to TB. *Nat. Rev. Microbiol.* 12, 289–299.
- Nuytinck, L., Shapiro, F., 2004. Mannose-binding lectin: laying the stepping stones from clinical research to personalized medicine. *Per. Med.* 1, 35–52.
- Qiagen, 2019. QuantiFERON® -TB Gold Plus (QFT® -Plus) Package Insert Rev 5, 1–72.
- Qu, H.-Q., Fisher-Hoch, S.P., McCormick, J.B., 2011. Molecular immunity to mycobacteria: knowledge from the mutation and phenotype spectrum analysis of Mendelian susceptibility to mycobacterial diseases. *Int. J. Infect. Dis.* 15, e305–e313.
- Raghavan, S., Manzanillo, P., Chan, K., Dovey, C., Cox, J.S., 2008. Secreted transcription factor controls *Mycobacterium tuberculosis* virulence. *Nature* 454, 717–721.
- Schaible, U.E., Kaufmann, S.H.E., 2007. Malnutrition and infection: complex mechanisms and global impacts. *PLoS Med.* 4, e115.
- Sinha, P., Davis, J., Saag, L., Wanke, C., Salgame, P., Mesick, J., Horsburgh, C.R., Hochberg, N.S., 2019. Undernutrition and Tuberculosis: Public Health Implications. *J. Infect. Dis.* 219, 1356–1363. <https://doi.org/10.1093/infdis/jiy675>
- Smith, I., 2003. *Mycobacterium tuberculosis* pathogenesis and molecular determinants of virulence. *Clin. Microbiol. Rev.* 16, 463–496.
- Søborg, C., Madsen, H.O., Andersen, Å.B., Lillebaek, T., Kok-Jensen, A., Garred, P., 2003. Mannose-binding lectin polymorphisms in clinical tuberculosis. *J. Infect. Dis.* 188, 777–782. <https://doi.org/10.1086/377183>
- Stanley, S.A., Raghavan, S., Hwang, W.W., Cox, J.S., 2003. Acute infection and macrophage subversion by *Mycobacterium tuberculosis* require a specialized secretion system. *Proc. Natl. Acad. Sci.* 100,

13001–13006.

- Steffensen, R., Thiel, S., Varming, K., Jersild, C., Jensenius, J.C., 2000. Detection of structural gene mutations and promoter polymorphisms in the mannan-binding lectin (MBL) gene by polymerase chain reaction with sequence-specific primers. *J. Immunol. Methods* 241, 33–42.
- Trajman, A., Steffen, R.E., Menzies, D., 2013. Interferon-gamma release assays versus tuberculin skin testing for the diagnosis of latent tuberculosis infection: An overview of the evidence. *Pulm. Med.* 601737. <https://doi.org/10.1155/2013/601737>
- Troldborg, A., Hansen, A., Hansen, S.W.K., Jensenius, J.C., Stengaard-Pedersen, K., Thiel, S., 2017. Lectin complement pathway proteins in healthy individuals. *Clin. Exp. Immunol.* 188, 138–147.
- Turner, M.W., 2003. The role of mannose-binding lectin in health and disease. *Mol. Immunol.* 40, 423–429. [https://doi.org/10.1016/S0161-5890\(03\)00155-X](https://doi.org/10.1016/S0161-5890(03)00155-X)
- Van Crevel, R., Ottenhoff, T.H.M., Van Der Meer, J.W.M., 2002. Innate immunity to *Mycobacterium tuberculosis*. *Clin. Microbiol. Rev.* 15, 294–309.
- Verdu, P., Barreiro, L.B., Patin, E., Gessain, A., Cassar, O., Kidd, J.R., Kidd, K.K., Behar, D.M., Froment, A., Heyer, E., 2006. Evolutionary insights into the high worldwide prevalence of MBL2 deficiency alleles. *Hum. Mol. Genet.* 15, 2650–2658.
- Wang, S.-H., Carruthers, B., Turner, J., 2012. The influence of increasing age on susceptibility of the elderly to tuberculosis. *Open Longev. Sci.* 6, 73–82.
- World Health Organization, 2020. *Global Tuberculosis Report 2020*. World Health Organization, Geneva.
- World Health Organization, 2018. *Global Tuberculosis Report 2018*. World Health Organization, Geneva.
- Zellweger, J.P., Sotgiu, G., Corradi, M., Durando, P., 2020. The diagnosis of latent tuberculosis infection (Ltbi): Currently available tests, future developments, and perspectives to eliminate tuberculosis (tb). *Med. del Lav.* 111, 170–183. <https://doi.org/10.23749/mdl.v111i3.9983>

LAMPIRAN

LAMPIRAN I. KUISIONER

KUISIONER

Petunjuk Pengisian

1. Isilah titik-titik di bawah ini dan berilah tanda checklist (√) pada salah satu tanda sesuai dengan jawaban yang menurut Anda benar
2. Bila ada yang kurang dimengerti oleh Bapak/ Ibu, boleh dipertanyakan pada peneliti.

A. DATA UMUM (diisi oleh peneliti)

Kode	
Tanggal Pengambilan sampel	
No Rekam Medik	
Pewawancara	
Tempat Wawancara	
(Khusus kontak) Kode pasien/ Kontak sebagai	

B. DATA DEMOGRAFI RESPONDEN

Nama Pasien	
Jenis Kelamin	<input type="checkbox"/> Laki-laki <input type="checkbox"/> Perempuan
Umur tahun
Alamat	

Telepon	
Status perkawinan	<input type="checkbox"/> Belum kawin <input type="checkbox"/> Kawin <input type="checkbox"/> Janda <input type="checkbox"/> Duda
Pekerjaan
Pendidikan Terakhir	<input type="checkbox"/> SD <input type="checkbox"/> SMP <input type="checkbox"/> SMA/ SMK <input type="checkbox"/> S1 <input type="checkbox"/> S2 <input type="checkbox"/> S3 <input type="checkbox"/> Tidak sekolah
Berat Badan..... kg
Tinggi Badan..... cm
Suku Bangsa	<input type="checkbox"/> Bugis <input type="checkbox"/> Makassar <input type="checkbox"/> Mandar <input type="checkbox"/> Toraja <input type="checkbox"/> Jawa <input type="checkbox"/> Tionghoa <input type="checkbox"/> Lain-lain :
Kondisi Rumah	a. Ventilasi rumah <input type="checkbox"/> Ada <input type="checkbox"/> Tidak ada b. Sinar matahari yang masuk ke rumah <input type="checkbox"/> Cukup (saat siang hari, tidak perlu menyalakan lampu) <input type="checkbox"/> Tidak cukup c. Luas rumah:
Keluarga	a. Jenis Keluarga <input type="checkbox"/> Keluarga inti (hanya orang tua dan anak) <input type="checkbox"/> Keluarga extenden (orang tua, anak dan lainnya) b. Jumlah anggota keluarga serumah <input type="checkbox"/> < 2 orang

	<input type="checkbox"/> 3 orang <input type="checkbox"/> 4 orang <input type="checkbox"/> 5 orang <input type="checkbox"/> > 5 orang e. Jumlah anggota keluarga sekamar <input type="checkbox"/> < 2 orang <input type="checkbox"/> 2 orang <input type="checkbox"/> > 2 orang
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C. RIWAYAT PENYAKIT SAAT INI

Gejala-gejala yang Anda rasakan saat ini	a. Gejala utama : b. Gejala lain : <input type="checkbox"/> Batuk <input type="checkbox"/> Batuk darah <input type="checkbox"/> Nyeri dada <input type="checkbox"/> Sesak <input type="checkbox"/> Demam <input type="checkbox"/> Nafsu makan menurun <input type="checkbox"/> Berat badan menurun
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D. RIWAYAT KONTAK

Riwayat kontak dengan	a. Apakah sebelumnya Anda pernah ada kontak dengan
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<p>penderita TBC</p>	<p>penderita TB/batuk lama?</p> <p><input type="checkbox"/> Ya <input type="checkbox"/> Tidak <input type="checkbox"/> Tidak tahu</p> <p>Jika ya, dengan siapa?</p> <p><input type="checkbox"/> Orang satu rumah: hubungan keluarga:.....</p> <p><input type="checkbox"/> Teman kerja</p> <p><input type="checkbox"/> Tetangga</p> <p><input type="checkbox"/> Teman</p> <p><input type="checkbox"/> Pasien rumah sakit</p> <p>b. Jika orang serumah, berapa lama Anda telah tinggal bersama?</p> <p><input type="checkbox"/> <6 bulan</p> <p><input type="checkbox"/> 6 bulan atau lebih</p> <p>b. Jika orang serumah, apakah Anda sekamar ?</p> <p><input type="checkbox"/> Ya</p> <p><input type="checkbox"/> Tidak</p>
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E. FAKTOR-FAKTOR RESIKO

<p>Riwayat merokok</p>	<p>a. Apakah Anda merokok?</p> <p><input type="checkbox"/> Ya, hingga saat ini</p> <p><input type="checkbox"/> Pernah , saat ini berhenti</p>
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	<input type="checkbox"/> Tidak pernah b. Jumlah rokok sehari:
Riwayat minum alkohol	a. Apakah Anda mengkonsumsi alkohol? <input type="checkbox"/> Ya <input type="checkbox"/> Tidak pernah
Riwayat penggunaan narkoba	a. Apakah Anda pernah menggunakan narkoba sebelumnya? <input type="checkbox"/> Ya <input type="checkbox"/> Tidak b. Jika Ya, apa nama obatnya?
Riwayat Diabetes Mellitus	a. Apakah Anda pernah menderita Diabetes Mellitus (penyakit gula)? <input type="checkbox"/> Ya <input type="checkbox"/> Tidak <input type="checkbox"/> Tidak tahu b. Jika Ya, Kadar gula terakhir? c. Obat DM yang diminum?
Riwayat penggunaan obat-obat immunosupresi, steroid	a. Apakah Anda pernah atau sedang menggunakan obat-obatan jenis immunosupresi atau steroid?? <input type="checkbox"/> Ya <input type="checkbox"/> Tidak <input type="checkbox"/> Tidak tahu Jika Ya, lanjutkan menjawab pertanyaan ini <ul style="list-style-type: none"> • Nama obat : • Alasan minum: • Lama minum :
Riwayat HIV	a. Apakah Anda pernah menderita HIV?

	<input type="checkbox"/> Ya <input type="checkbox"/> Tidak <input type="checkbox"/> Tidak tahu Jika ya, lanjutkan menjawab pertanyaan ini <ul style="list-style-type: none"> • Kapan didiagnosis? • Pernahkah minum obat anti HIV <ul style="list-style-type: none"> <input type="checkbox"/> Ya <input type="checkbox"/> Tidak Jika ya, apa nama obatnya? Apakah obat tersebut dibeli? <input type="checkbox"/> Ya <input type="checkbox"/> Tidak
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F. RIWAYAT PENYAKIT LAINNYA

Riwayat penyakit lainnya	<ul style="list-style-type: none"> •
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G. HASIL PEMERIKSAAN YANG SUDAH ADA (diisi oleh peneliti)

Hasil foto X-Ray thorax (khusus pasien)	
Hasil sputum BTA di tempat ini (khusus pasien)	Sputum 1: Sputum 2: Sputum 3:

Hasil pemeriksaan darah rutin	WBC : Neutrofil:% Limfosit:% Monosit:% Hb :g/dL
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LAMPIRAN HASIL ANALISIS STATISTIK

1. Karakteristik Sampel
 - berdasarkan jenis kelamin

SEX * group Crosstabulation

		group		Total	
		latent tuberculosis infection	active pulmonary tuberculosis		
SEX	1.00	Count	7	22	29
		% within group	28.0%	56.4%	45.3%
	2.00	Count	18	17	35
		% within group	72.0%	43.6%	54.7%
Total		Count	25	39	64
		% within group	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	4.962 ^a	1	.026		

Continuity Correction ^b	3.882	1	.049		
Likelihood Ratio	5.089	1	.024		
Fisher's Exact Test				.039	.024
Linear-by-Linear Association	4.885	1	.027		
N of Valid Cases	64				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.33.

b. Computed only for a 2x2 table

- berdasarkan usia

Descriptives

group			Statistic	Std. Error
AGE	latent tuberculosis infection	Mean	37.9600	2.81690
		95% Confidence Interval for		
		Mean	Lower Bound	32.1462
			Upper Bound	43.7738
		5% Trimmed Mean	37.4000	

	Median		34.0000	
	Variance		198.373	
	Std. Deviation		14.08451	
	Minimum		18.00	
	Maximum		69.00	
	Range		51.00	
	Interquartile Range		20.50	
	Skewness		.683	.464
	Kurtosis		-.332	.902
active pulmonary tuberculosis	Mean		42.8462	2.07632
	95% Confidence Interval for	Lower Bound	38.6429	
	Mean	Upper Bound	47.0495	
	5% Trimmed Mean		42.7179	
	Median		40.0000	
	Variance		168.134	
	Std. Deviation		12.96663	
	Minimum		18.00	
	Maximum		70.00	
	Range		52.00	
	Interquartile Range		21.00	
	Skewness		.304	.378

Kurtosis	-.696	.741
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Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AGE	Equal variances assumed	.071	.790	-1.422	62	.160	-4.88615	3.43582	-11.75425	1.98195
	Equal variances not assumed			-1.396	48.181	.169	-4.88615	3.49944	-11.92156	2.14925

- berdasarkan bmi

-

Descriptives

group		Statistic	Std. Error		
bmi	latent tuberculosis infection	Mean	22.4642	.85010	
		95% Confidence Interval for Mean	Lower Bound	20.7097	
			Upper Bound	24.2188	
		5% Trimmed Mean	22.1442		
		Median	22.4913		
		Variance	18.067		
		Std. Deviation	4.25048		
		Minimum	16.87		
		Maximum	35.03		
		Range	18.16		
		Interquartile Range	5.99		
		Skewness	.993	.464	
		Kurtosis	1.627	.902	
		active pulmonary tuberculosis		Mean	17.5740
95% Confidence Interval for Mean	Lower Bound			16.0305	
	Upper Bound			19.1175	

5% Trimmed Mean	17.5183	
Median	17.4818	
Variance	22.671	
Std. Deviation	4.76144	
Minimum	.00	
Maximum	31.18	
Range	31.18	
Interquartile Range	3.87	
Skewness	-.372	.378
Kurtosis	5.729	.741

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
bmi	Equal variances assumed	.218	.642	4.176	62	.000	4.89021	1.17097	2.54948	7.23094

Equal variances not assumed			4.282	55.471	.000	4.89021	1.14192	2.60219	7.17823
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- berdasarkan riwayat smoke

smoker * group Crosstabulation

smoker	non-smoker	Count	group		Total
			latent tuberculosis infection	active pulmonary tuberculosis	
			20	23	43

	% within group	80.0%	59.0%	67.2%
smoker	Count	5	16	21
	% within group	20.0%	41.0%	32.8%
Total	Count	25	39	64
	% within group	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	3.055 ^a	1	.080		
Continuity Correction ^b	2.176	1	.140		
Likelihood Ratio	3.182	1	.074		
Fisher's Exact Test				.105	.068
Linear-by-Linear Association	3.007	1	.083		
N of Valid Cases	64				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.20.

b. Computed only for a 2x2 table

-
- berdasarkan riwayat alcohol
-

Alcohol consumption * group Crosstabulation

			group		
			latent tuberculosis infection	active pulmonary tuberculosis	Total
Alcohol consumption	Never	Count	22	35	57
		% within group	88.0%	89.7%	89.1%
	Yes	Count	3	4	7
		% within group	12.0%	10.3%	10.9%
Total	Count		25	39	64
	% within group		100.0%	100.0%	100.0%

- berdasarkan nilai bta tertinggi (khusus pasien)

Acid Fast Bacilli * group Crosstabulation

			group	
			active pulmonary tuberculosis	Total
Acid Fast Bacilli	1+	Count	19	19

		% within group	48.7%	48.7%
	2+	Count	14	14
		% within group	35.9%	35.9%
	3+	Count	6	6
		% within group	15.4%	15.4%
Total		Count	39	39
		% within group	100.0%	100.0%

- berdasarkan hubungan keluarga (khusus kontak)

Relationship to index case (Contact as) * group Crosstabulation

		group latent tuberculosis infection		Total
Relationship to index case (Contact as)	Spouse	Count	14	14
		% within group	56.0%	56.0%
	Parent	Count	4	4
		% within group	16.0%	16.0%
	Son/daughter	Count	4	4
		% within group	16.0%	16.0%
	Sibling	Count	2	2
		% within group	5.1%	5.1%

		% within group	8.0%	8.0%
	Other	Count	1	1
		% within group	4.0%	4.0%
Total		Count	25	25
		% within group	100.0%	100.0%

- tidur sekamar (khusus kontak)

Same room * group Crosstabulation

			group latent tuberculosis infection	Total
Same room	TIDAK	Count	10	10
		% within group	40.0%	40.0%
	YA	Count	15	15
		% within group	60.0%	60.0%

Total	Count	25	25
	% within group	100.0%	100.0%

2. Perbedaan ekspresi gen *MBL2* (nilai ekspresi yang diperoleh ditransformasi ke Log)

Descriptives

group		Statistic	Std. Error
Ekspresi gen <i>MBL2</i> (Log)	latent tuberculosis infection	Mean	2.2698
		95% Confidence Interval for Mean	
		Lower Bound	2.1722
		Upper Bound	2.3673
		5% Trimmed Mean	2.2707
		Median	2.3045
		Variance	.053
		Std. Deviation	.23109
		Minimum	1.82
		Maximum	2.70
		Range	.88
		Interquartile Range	.38
		Skewness	-.099
	Kurtosis	-.875	.918
active pulmonary tuberculosis	Mean	2.2564	.04218

		95% Confidence Interval for	Lower Bound	2.1710	
		Mean	Upper Bound	2.3418	
		5% Trimmed Mean		2.2581	
		Median		2.2989	
		Variance		.069	
		Std. Deviation		.26341	
		Minimum		1.77	
		Maximum		2.72	
		Range		.95	
		Interquartile Range		.42	
		Skewness		-.080	.378
		Kurtosis		-.892	.741
Kadar Protein MBL (Log)	latent tuberculosis infection	Mean		-.3298	.15734
		95% Confidence Interval for	Lower Bound	-.6553	
		Mean	Upper Bound	-.0043	
		5% Trimmed Mean		-.3297	
		Median		-.4747	
		Variance		.594	
		Std. Deviation		.77081	
		Minimum		-1.68	
		Maximum		1.03	

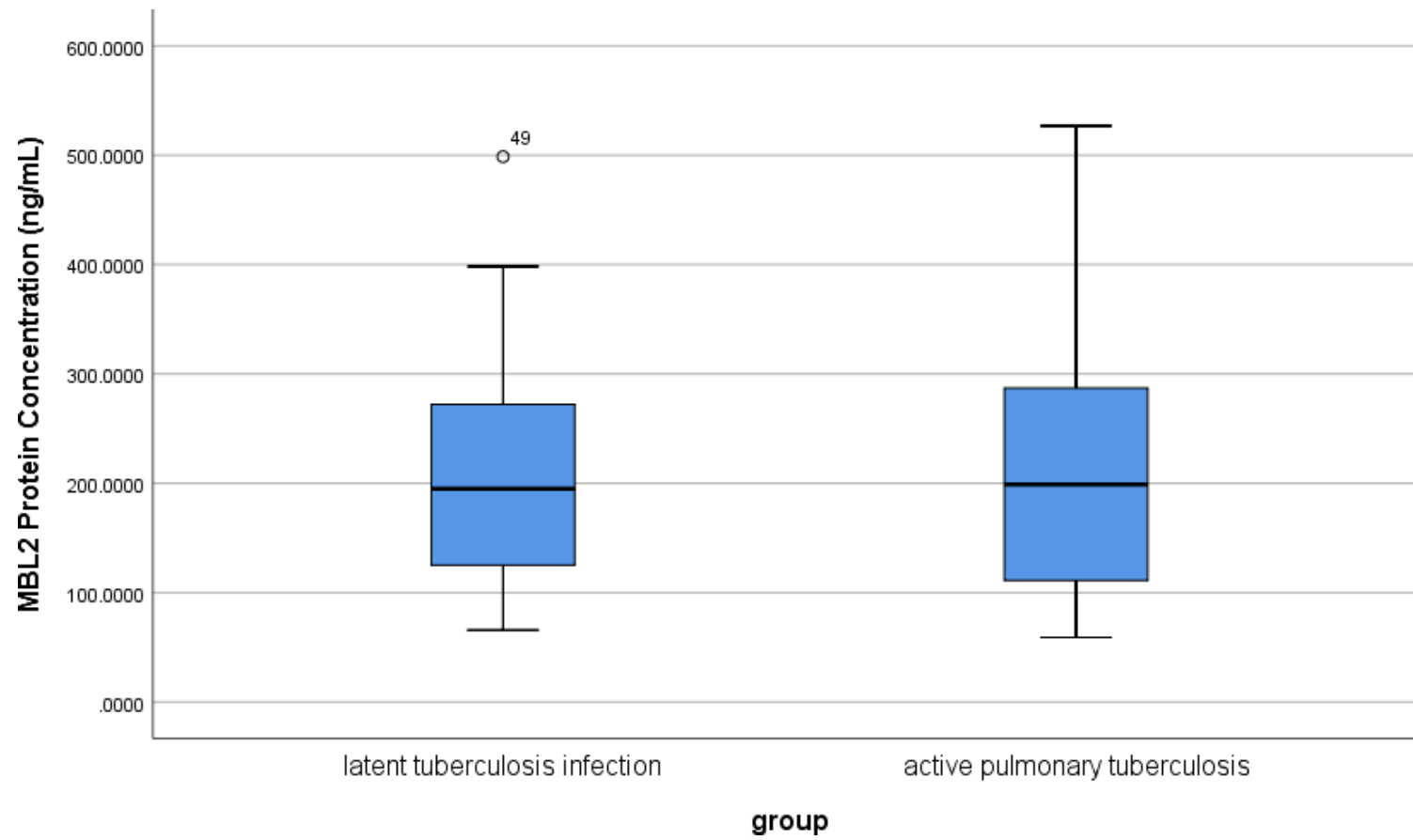
		Range	2.71	
		Interquartile Range	1.40	
		Skewness	.076	.472
		Kurtosis	-1.342	.918
	active pulmonary tuberculosis	Mean	-.6340	.13393
		95% Confidence Interval for Mean	Lower Bound	-.9051
			Upper Bound	-.3628
		5% Trimmed Mean	-.6208	
		Median	-.6637	
		Variance	.700	
		Std. Deviation	.83639	
		Minimum	-2.56	
		Maximum	.96	
		Range	3.53	
		Interquartile Range	1.36	
		Skewness	-.097	.378
		Kurtosis	-.445	.741

3. Perbedaan Kadar Protein MBL

Descriptives

	group		Statistic	Std. Error		
MBL Protein Concentration (ng/mL)	latent tuberculosis infection	Mean	208.690834	21.7799183		
		95% Confidence Interval for	Lower Bound	163.739292		
		Mean	Upper Bound	253.642377		
		5% Trimmed Mean		201.371347		
		Median		194.972133		
		Variance		11859.121		
		Std. Deviation		108.8995917		
		Minimum		65.8539		
		Maximum		498.6502		
		Range		432.7962		
		Interquartile Range		160.9307		
		Skewness		.899	.464	
		Kurtosis		.499	.902	
		active pulmonary tuberculosis	Mean		214.343099	20.2240306
			95% Confidence Interval for	Lower Bound	173.401689	
Mean	Upper Bound		255.284508			
5% Trimmed Mean			206.334028			
Median			199.022119			
Variance			15951.445			
Std. Deviation			126.2990304			

Minimum	59.1064	
Maximum	526.7733	
Range	467.6669	
Interquartile Range	180.4350	
Skewness	.894	.378
Kurtosis	.042	.741



Test Statistics^a

MBL2 Protein
Concentration
(ng/mL)

Mann-Whitney U	469.000
Wilcoxon W	1249.000
Z	-.255
Asymp. Sig. (2-tailed)	.799

a. Grouping Variable: group

4. Perbedaan ekspresi gen MBL2 dan kadar proteinnya dengan stratifikasi berdasarkan jenis kelamin

Jenis kelamin laki-laki:

Descriptives

		group		Statistic	Std. Error
MBL2 gene expression (Log)	latent tuberculosis infection	Mean		-.7078	.26793
		95% Confidence Interval for	Lower Bound	-1.3634	
		Mean	Upper Bound	-.0522	
		5% Trimmed Mean		-.7208	

	Median		-8716	
	Variance		.503	
	Std. Deviation		.70889	
	Minimum		-1.68	
	Maximum		.50	
	Range		2.18	
	Interquartile Range		.95	
	Skewness		.606	.794
	Kurtosis		.438	1.587
	active pulmonary tuberculosis	Mean	-4092	.17452
		95% Confidence Interval for	Lower Bound	-7721
		Mean	Upper Bound	-0463
		5% Trimmed Mean		-.3954
		Median		-.4874
		Variance		.670
		Std. Deviation		.81859
		Minimum		-2.01
		Maximum		.96
		Range		2.97
		Interquartile Range		1.19
		Skewness		-.267
				.491

		Kurtosis		- .567	.953	
MBL2 Protein Concentration (ng/mL)	latent tuberculosis infection	Mean		163.627460	32.8784485	
		95% Confidence Interval for	Lower Bound	83.176795		
		Mean	Upper Bound	244.078125		
		5% Trimmed Mean		161.999967		
		Median		143.545522		
		Variance		7566.947		
		Std. Deviation		86.9881982		
		Minimum		65.8539		
		Maximum		290.6959		
		Range		224.8419		
		Interquartile Range		148.2834		
		Skewness		.352	.794	
		Kurtosis		-1.751	1.587	
		active pulmonary tuberculosis	Mean		234.017939	26.6601964
			95% Confidence Interval for	Lower Bound	178.575025	
			Mean	Upper Bound	289.460852	
5% Trimmed Mean			228.089889			
Median			206.861118			
Variance			15636.854			
Std. Deviation			125.0474053			

	Minimum	59.1064	
	Maximum	526.7733	
	Range	467.6669	
	Interquartile Range	203.2285	
	Skewness	.550	.491
	Kurtosis	-.165	.953

Uji Mann-Whitney:

Test Statistics^a

	MBL2 gene expression (Log)	MBL2 Protein Concentration (ng/mL)
Mann-Whitney U	58.000	56.000
Wilcoxon W	86.000	84.000
Z	-.968	-1.070
Asymp. Sig. (2-tailed)	.333	.285
Exact Sig. [2*(1-tailed Sig.)]	.354 ^b	.304 ^b

a. Grouping Variable: group

b. Not corrected for ties.

Kelompok sampel perempuan:

Descriptives

		group	Statistic	Std. Error	
MBL2 gene expression (Log)	latent tuberculosis infection	Mean	-.1741	.18429	
		95% Confidence Interval for Mean	Lower Bound	-.5648	
			Upper Bound	.2166	
		5% Trimmed Mean	-.1741		
		Median	.1068		
		Variance	.577		
		Std. Deviation	.75986		
		Minimum	-1.38		
		Maximum	1.03		
		Range	2.41		
		Interquartile Range	1.33		
		Skewness	-.124	.550	
		Kurtosis	-1.548	1.063	
		active pulmonary tuberculosis	Mean	-.9248	.19137
			95% Confidence Interval for Mean	Lower Bound	-1.3305
Upper Bound					

		Mean	Upper Bound	- .5191	
		5% Trimmed Mean		- .9110	
		Median		- .9613	
		Variance		.623	
		Std. Deviation		.78905	
		Minimum		-2.56	
		Maximum		.47	
		Range		3.03	
		Interquartile Range		.80	
		Skewness		.017	.550
		Kurtosis		.357	1.063
MBL2 Protein Concentration (ng/mL)	latent tuberculosis infection	Mean		232.105153	27.7104003
		95% Confidence Interval for	Lower Bound	173.361729	
		Mean	Upper Bound	290.848578	
		5% Trimmed Mean		224.644710	
		Median		208.487461	
		Variance		13053.727	
		Std. Deviation		114.2529073	
		Minimum		99.8481	
		Maximum		498.6502	
		Range		398.8020	

	Interquartile Range		192.3612	
	Skewness		.812	.550
	Kurtosis		.134	1.063
active pulmonary tuberculosis	Mean		188.881541	30.8127562
	95% Confidence Interval for	Lower Bound	123.561416	
	Mean	Upper Bound	254.201666	
	5% Trimmed Mean		178.456562	
	Median		124.778916	
	Variance		16140.241	
	Std. Deviation		127.0442486	
	Minimum		65.6192	
	Maximum		499.7935	
	Range		434.1742	
	Interquartile Range		123.4723	
	Skewness		1.549	.550
	Kurtosis		1.791	1.063

uji mann-whitney

Test Statistics^a

	MBL2 gene expression (Log)	MBL2 Protein Concentration (ng/mL)
Mann-Whitney U	77.000	103.000
Wilcoxon W	230.000	256.000
Z	-2.325	-1.650
Asymp. Sig. (2-tailed)	.020	.099
Exact Sig. [2*(1-tailed Sig.)]	.020 ^b	.103 ^b

a. Grouping Variable: group

b. Not corrected for ties.

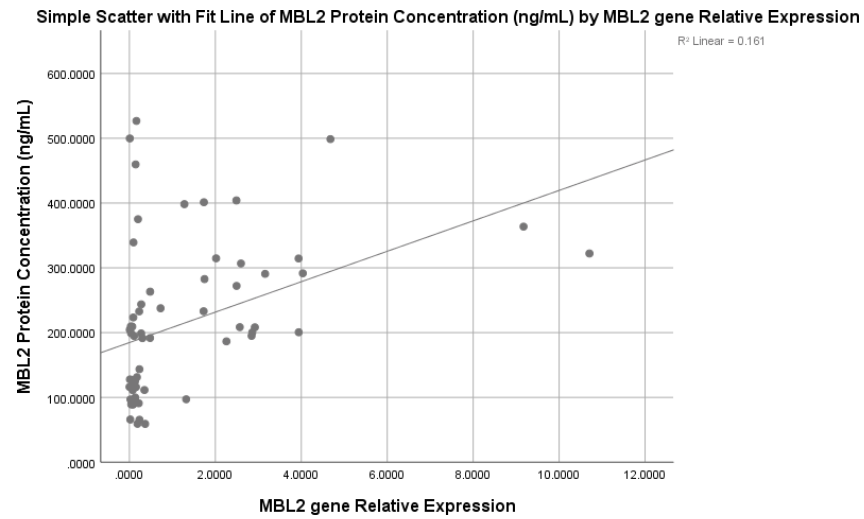
5. Korelasi Ekspresi gen MBL2 dan kadar Protein MBL2

Correlations

	MBL2 Protein Concentration (ng/mL)	MBL2 gene Relative Expression
Spearman's rho	1.000	.447**
MBL2 Protein Concentration (ng/mL)		
Correlation Coefficient		
Sig. (2-tailed)	.	.000

	N	64	63
MBL2 gene Relative Expression	Correlation Coefficient	.447**	1.000
	Sig. (2-tailed)	.000	.
	N	63	63

** . Correlation is significant at the 0.01 level (2-tailed).

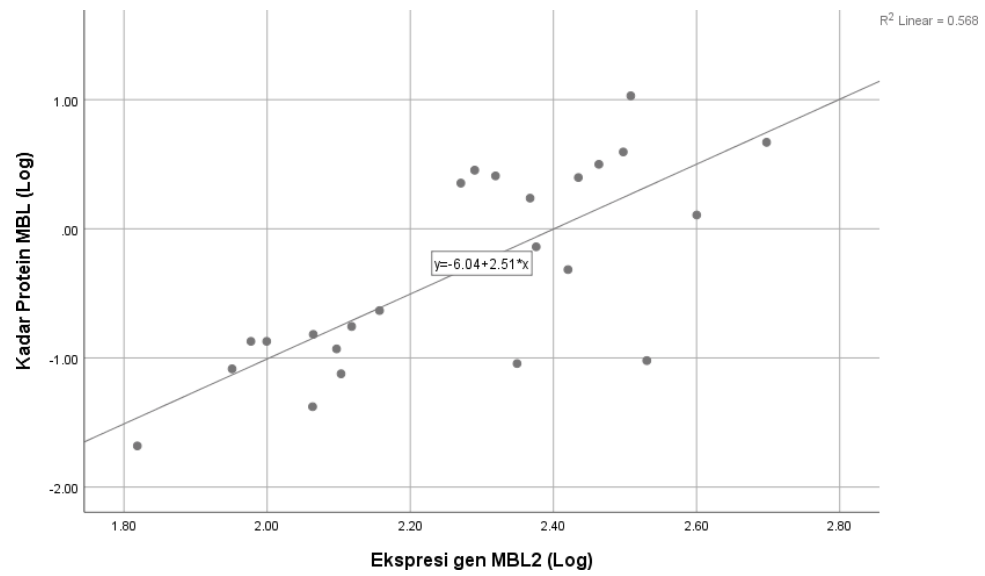


Korelasi Ekspresi gen MBL2 dan kadar Protein MBL2 khusus pada kelompok TB laten

Correlations

			MBL protein concentration (Log) (ng/mL)	MBL2 gene expression (Log)
Spearman's rho	MBL protein concentration (Log) (ng/mL)	Correlation Coefficient	1.000	.700**
		Sig. (2-tailed)	.	.000
		N	25	24
	MBL2 gene expression (Log)	Correlation Coefficient	.700**	1.000
		Sig. (2-tailed)	.000	.
		N	24	24

** . Correlation is significant at the 0.01 level (2-tailed).



Korelasi Ekspresi gen MBL2 dan kadar Protein MBL2 khusus pada kelompok TB aktif

Correlations

		MBL protein concentration (Log) (ng/mL)	MBL2 gene expression (Log)
Spearman's rho	MBL protein concentration (Log) (ng/mL)	Correlation Coefficient	1.000
		Sig. (2-tailed)	.277
		N	39
	MBL2 gene expression (Log)	Correlation Coefficient	.277
		Sig. (2-tailed)	1.000
		N	39

