

DAFTAR PUSTAKA

- Abdelhamid, M., Counts, S., Zhou, C., Hida, H., Kim, J., Michikawa, M., & Jung, C. (2024). *Protective Effects of Bifidobacterium Breve MCC1274 as a Novel Therapy for Alzheimer's Disease*. <https://doi.org/10.20944/preprints202412.2295.v1>.
- Abdou AM, Higashiguchi S, Horie K, Kim M, Hatta H, Yokogoshi H. 2006. Relaxation and Immunity Enhancement Effects of γ -Aminobutyric Acid (GABA) Administration in Humans. *BioFactors* , 26, p201–208.
- Abid NB, Naseer MI & Kim MO. 2019. Comparative gene-expression analysis of Alzheimer's disease progression with aging in transgenic mouse model. *International Journal of Molecular Sciences*, 20(5), 1219.
- Abu-Elfotuh K, Mohammed H, Selim RM, Moustafa NM, Gowifel AMH. 2023. The protective effects of sesamol and/or the Probiotic, *Lactobacillus rhamnosus*, against Aluminum chloride-induced neurotoxicity and hepatotoxicity in rats : Modulation of Wnt / β -catenin / inflammatory, and apoptotic pathways. 08:1–19.
- Adam MR, Nout MJR. 2009. *Fermentation and Food Safety*. Aspen Publisher. Gaithersburg, Maryland.
- Afrizal A. 2019. Pengaruh Pemberian Susu Bubuk Skim Terhadap Kualitas Dadih Susu Kambing. Diakses dari <https://ejournal.uniska-kediri.ac.id/index.php/FilliaCendekia/article/view/657/530> pada tanggal 29 september 2022. p88-94.
- Ajami, Sima, Mehri NS, Chitsaz A. 2016. Role of Alzheimer Disease National Registry System in Prevention and Treatment Management. *Bioengineering & Biomedical Science* 6, no. 3: 1-7.
- Akuzawa R, Miura T. 2011. Asian Fermented Milks. *Encyclopedia of Dairy Science*, 2nd ed.; Fuquay, J.W., Fox, P.F., McSweeney, P.L.H., Eds.; Academic Press: San Diego, CA, USA. (2): p507–511.
- Ali H, Tofrizal T, Tjong DH, Yanis A, Yarni SD. 2023. The RYR3 gene is involved in Wharton's jelly derived mesenchymal stem cell treatment of Alzheimer's disease in rats. *Archives of medical science : AMS*, 19(3), 820–824. <https://doi.org/10.5114/aoms/163353>.
- Alzheimer's Association. 2018. Alzheimer's disease facts and figures. Elsevier. p367-429.
- Alzheimer's Disease International. 2016. The Global Voice of Dementia, Dementia Friendly Communities Key Principles. Alzheimer's Disease International.
- Anggraini L, Marlida Y, Wizna W, Jamsari J, Mirzah M, Adzitey F, et al. 2018. Molecular Identification and Phylogenetic Analysis of GABA-Producing

- Lactic Acid Bacteria Isolated from Indigenous Dadih of West Sumatera, Indonesia. *F1000Research*, 7, 1663.
- Anggraini L, Marlida Y, Wizna W, Jamsari J, Mirzah M. 2019. Optimization of Nutrient Medium for *Pediococcus acidilactici* DS15 to Produce GABA. *J. World's Poult. Res.*
- Anggraini, L, Marlida Y, Mirzah M, Wizna J, Huda N. 2019. Isolation and Characterization of Lactic Acid Bacteria Producing GABA from Indigenous West Sumatera Fermented Food. *Int. J. Adv. Sci. Eng. Inf. Technol.* 9, p855–860.
- Annita, Revilla, G., Ali, H., & Almurdi. 2024. The Effect of Bone Marrow Mesenchymal Stem Cells on Nestin and Sox-2 Gene Expression and Spatial Learning (Percent Alternation Y-Maze Test) against AlCl₃-Induced Alzheimer's-like Pathology in a Rat Model. *Iranian journal of medical sciences*, 49(7), 441–449. <https://doi.org/10.30476/ijms.2023.98912.3104>.
- Aritonang SN, Roza E, Rossy E. 2019. Probiotik dan Prebiotik dari Kedelai untuk Pangan Fungsional. Sidoarjo: Indomedia Pustaka, hal 41-74.
- Arnold M, Rajagukguk YV, Gramza-Michałowska A. 2021. Characterization of Dadih: Traditional Fermented Buffalo Milk of Minangkabau. *Beverages*, 7(3), 60.
- Arora, M.K., Kisku, A., & Jangra, A. 2020. Mangiferin ameliorates cognitive deficits, oxidative stress, and neuroinflammation induced by intracerebroventricular quinolinic acid in Wistar rats. *Indian Journal of Pharmacology*, 52 (4), 296-305.
- Balusu, S., De Strooper, B. 2024. The necroptosis cell death pathway drives neurodegeneration in Alzheimer's disease. *Acta Neuropathol* 147, 96. <https://doi.org/10.1007/s00401-024-02747-5>.
- Barage SH, Sonawane KD. 2015. Amyloid cascade hypothesis: Pathogenesis and therapeutic strategies in Alzheimer's disease. *Neuropeptides*. 52, 1–18.
- Barnett S, Anthony. 2002. The Story of Rats: Their Impact on Us and Our Impact on Them. Crows Nest NSW: Allen & Unwin.
- Barrett L, Orlova M, Maziarz M, Kuchin S. 2012. Protein kinase A contributes to the negative control of Snf1 protein kinase in *Saccharomyces cerevisiae*. *Eukaryotic cell*, 11(2), 119–128. <https://doi.org/10.1128/EC.05061-11>.
- Bateman RJ, Munsell LY, Morris JC, Swarm R, Yarasheski KE, Holtzman DM. 2006. Human amyloid-beta synthesis and clearance rates as measured in cerebrospinal fluid in vivo. *Nat. Med.* 12:856–861.
- Bauer ME, Teixeira AL. 2018. Inflammation in psychiatric disorders: what comes first? *Annals of the New York Academy of Sciences*. doi:10.1111/nyas.13712.
- Benkmark, S. 2013. Gut Microbiota, Immune Development and Function. *Pharmacology Rev.* 69(1): 87-113.

- Bercik P, Denou E, Collins J, Jackson W, Lu J, Jury J, et al. 2011. The intestinal microbiota affect central levels of brain-derived neurotrophic factor and behavior in mice. *Gastroenterology*, 141(2),599–609.e6093. <https://doi.org/10.1053/j.gastro.2011.04.052>.
- Biagi E, Franceschi C, Rampelli S, Severgnini M, Ostan R., Turrioni S, et al. 2016. Gut Microbiota and Extreme Longevity. *Current biology : CB*, 26(11), 1480–1485. <https://doi.org/10.1016/j.cub.2016.04.016>.
- Bloom GS. 2014. Amyloid- β and tau: The trigger and bullet in Alzheimer disease pathogenesis. *JAMA Neurol.* 71(4): p505–508. doi: 10.1001/jamaneurol.2013.5847.
- Bonfili L, Cecarini V, Cuccioloni M, Angeletti M, Berardi S, Scarpona S, et al. 2018. SLAB51 Probiotic Formulation Activates SIRT1 Pathway Promoting Antioxidant and Neuroprotective Effects in an AD Mouse Model. *Molecular neurobiology*, 55(10), 7987–8000. <https://doi.org/10.1007/s12035-018-0973-4>.
- Bravo JA, Forsythe P, Chew MV, Escaravage E, Savignac HM, Dinan TG, et al. 2011. Ingestion of *Lactobacillus* strain regulates emotional behavior and central GABA receptor expression in a mouse via the vagus nerve. *Proceedings of the National Academy of Sciences of the United States of America*, 108(38), 16050–16055. <https://doi.org/10.1073/pnas.1102999108>.
- Brejijeh Z, Karaman R. 2020. Comprehensive Review on Alzheimer's Disease: Causes and Treatment. *Molecules* 25. (24): p5789. <https://doi.org/10.3390/molecules25245789>.
- Brown LS, Foster CG, Courtney J M, King NE, Howells DW, Sutherland BA. 2019. Pericytes and Neurovascular Function in the Healthy and Diseased Brain. *Frontiers in cellular neuroscience*, 13, 282. <https://doi.org/10.3389/fncel.2019.00282>.
- Budiyatri R, Anjani G, Legowo AM, Syauqy A, Limijadi EKS. 2024. The effect of Dadih for the prevention of iron deficiency anemia in adolescent girls 12–15 years old. *AcTion Aceh Nutr J.* 9(1):91.
- Butterfield DA, Swomley AM, Sultana R. 2013. Amyloid β -Peptide (1–42)-Induced Oxidative Stress in Alzheimer Disease: Importance in Disease Pathogenesis and Progression. *Antioxidants & Redox Signaling*, 19(8), 823–835. doi:10.1089/ars.2012.5027.
- Castelli V, d'Angelo M, Lombardi F, Alfonsetti M, Antonosante A, Catanesi M, et al. 2020. Effects of the probiotic formulation SLAB51 in *in vitro* and *in vivo* Parkinson's disease models. *Aging*, 12(5), 4641–4659. <https://doi.org/10.18632/aging.102927>.
- Chauhan D, Bartok E, Gaidt MM, Bock FJ, Herrmann J, Seeger JM, et al. 2018. BAX/BAK-Induced Apoptosis Results in Caspase-8-Dependent IL-1 β

- Maturation in Macrophages. *Cell reports*, 25(9), 2354–2368.e5. <https://doi.org/10.1016/j.celrep.2018.10.087>.
- Chauhan V, Chauhan A. 2006. Review: Oxidative Stress In Alzheimer's Disease. *Patophysiology*. 13:195-208.
- Cheng, X.-J., Guan, F.-L., Li, Q., Dai, G., Li, H.-F., & Li, X. 2020. AlCl₃ exposure regulates neuronal development by modulating DNA modification. *World Journal of Stem Cells*, 12(11), 1354–1365. <https://doi.org/10.4252/WJSC.V12.I11.1354>.
- Choi, J. K., Kwon, O., & Lee, S. H. (2024). Oral Administration of Bifidobacterium lactis Ameliorates Cognitive Deficits in Mice Intracerebroventricularly Administered Amyloid Beta via Regulation the Activation of Mitogen-activated Protein Kinases. *Food Science of Animal Resources*. <https://doi.org/10.5851/kosfa.2024.e5>.
- Choo S, An M, Lim Y. 2024. Protective Effects of Heat-Killed *Ruminococcus albus* against β -Amyloid- Induced Apoptosis on SH-SY5Y Cells. 34(1):85–93.
- Coimbra JRM, Marques DFF, Baptista SJ, Pereira CMF, Moreira PI, Dinis TCP, et al. 2018. Highlights in BACE1 Inhibitors for Alzheimer's Disease Treatment. *Frontiers in Chemistry*, 6, 178. <https://doi.org/10.3389/fchem.2018.00178>.
- Crittenden RG, Martinez NR, Playne MJ. 2003. Synthesis and Utilisation of Folate by Yoghurt Starter Cultures and Probiotic Bacteria. *Int. J. Food Microbiol.* 80, p217–222.
- Cuciniello, R., Luongo, D., Maurano, F., Crispi, S., & Bergamo, P. 2024. Dietary conjugated linoleic acid downregulates the AlCl₃-induced hyperactivation of compensatory and maladaptive signalling in the mouse brain cortex. *Free Radical Biology and Medicine*. <https://doi.org/10.1016/j.freeradbiomed.2024.01.006>.
- Dahlan MS. 2016. Besar sampel dalam penelitian kedokteran dan kesehatan. *Jakarta: epidemiologi indonesia*, 14.
- Dai SF, Gao F, Xu XL, Zhang WH, Song SX, Zhou GH. 2012. Effects of Dietary Glutamine and Gamma-Aminobutyric Acid on Meat Colour, PH, Composition, and Water-Holding Characteristic in Broilers under Cyclic Heat Stress. *Br. Poult. Sci.* 53, p471–481.
- Dalile B, Van OL, Vervliet B, Verbeke K. 2019. The role of short-chain fatty acids in microbiota-gut-brain communication. *Nature reviews. Gastroenterology & hepatology*, 16(8), 461–478. <https://doi.org/10.1038/s41575-019-0157-3>.
- D'Amelio M, Cavallucci V, Middei S, Marchetti C, Pacioni S, Ferri A, et al. 2011. Caspase-3 triggers early synaptic dysfunction in a mouse model of Alzheimer's disease. *Nature neuroscience*, 14(1), 69–76. <https://doi.org/10.1038/nn.2709>.

- Das B, Yan R. 2017. Role of BACE1 in Alzheimer's synaptic function. *Translational Neurodegeneration*. 6(1): p4–11. <https://doi.org/10.1186/s40035-017-0093-5>.
- Davari A, Ataei E, Assarzadeh H. 2013. Dentin hypersensitivity: etiology, diagnosis and treatment; a literature review. *J Dent (Shiraz)*. 14(3):136–45. PMID: 24724135; PMCID: PMC3927677.
- De Hernández-Cánovas JD, Guillén-López I, Vizcaíno-Milla P, Andreo-López MI, Sánchez-Rubio M, Taboada-Rodríguez A, et al. 2020. Antimicrobial Activity of *Citrus* spp. and *Anethum graveolens* Components against *Candida Metapsilosis* in Ranch Sauce. *J. Food Sci. Technol*. 57, 2713–2721.
- Deane R, Bell RD, Sagare A, Zlokovic BV. 2009. Clearance of Amyloid- β peptide across the blood-brain barrier: Implication for therapies in Alzheimer Disease. *CNS Neurol Disord Drug Targets*. March 8(1): 16-30.
- De Calignon A, Fox, L. M., Pitstick, R., Carlson, G. A., Bacsikai, B. J., Spire-Jones, T. L., & Hyman, B. T. (2010). Caspase activation precedes and leads to tangles. *Nature*, 464(7292), 1201–1204. <https://doi.org/10.1038/nature08890>.
- Dehghani M, Kazemi SPH, Guillemin GJ. 2019. Microorganisms, Tryptophan Metabolism, and Kynurenine Pathway: A Complex Interconnected Loop Influencing Human Health Status. *International journal of tryptophan research* : *IJTR*, 12, 1178646919852996. <https://doi.org/10.1177/1178646919852996>.
- De Rijke, T. J., Doting, M. H. E., van Hemert, S., De Deyn, P. P., van Munster, B. C., Harmsen, H. J. M., & Sommer, I. E. C. (2022). A Systematic Review on the Effects of Different Types of Probiotics in Animal Alzheimer's Disease Studies. *Frontiers in Psychiatry*, 13. <https://doi.org/10.3389/fpsy.2022.879491>.
- De-Vuyst L, Leroy F. 2007. Bacteriocins from Lactic Acid Bacteria: Production, Purification, and Food Applications. *J. of Molecular Microbiology and Biotechnology*. 13: 194–99.
- Di Meo, Margarucci, Galderisi, Crispi, Peluso. 2019. Curcumin, Gut Microbiota, and Neuroprotection. *Nutrients*, 11(10), 2426. MDPI AG. <http://dx.doi.org/10.3390/nu11102426>.
- Dipiro JT, Yee GC, Haines ST, Nolin TD, Ellingrod VL, Posey LM. 2017. Pharmacotherapy handbook, 12 th edition, Mc. Graw Hill Medical, New York.
- Elmore S. 2007. Apoptosis: a review of programmed cell death. *Toxicologic pathology*, 35(4), 495–516. <https://doi.org/10.1080/01926230701320337>.
- Elsworthy RJ, Aldred S. 2019. Depression in Alzheimer's Disease: An Alternative Role for Selective Serotonin Reuptake Inhibitors?. *Journal of Alzheimer's disease* : *JAD*, 69(3), 651–661. <https://doi.org/10.3233/JAD-180780>.

- Fan TJ, Han LH, Cong RS, Liang J. 2005. Caspase Family Proteases and Apoptosis, *Acta Biochimica et Biophysica Sinica*, 37(11): p719–727. <https://doi.org/10.1111/j.1745-7270.2005.00108.x>.
- FAO/WHO. 2002. Report on Joint FAO/WHO Expert Consultation on Evaluation of Health and Nutritional Properties of Probiotics in Food Including Powder Milk With Live Acid Bacteria. Cordoba, Argentina.
- Faradila F, Syafrita Y, Lipoeto NI. 2020. Relationship between amyloid-beta 42 levels and y-maze alternation values in sprague dawley alzheimer's induction received medium-chain triglycerides therapy. *Open Access Macedonian Journal of Medical Sciences*, 8(A), 476-480.
- Faradila F, Yuliarni S, Rika S, Lipoeto NI. 2022. The Effect of Combination Ovariectomy and D-galactose Administration on Alzheimer's Animal Model. *Baghdad Science Journal*: Vol. 19: Iss. 5, Article 2. DOI: <https://doi.org/10.21123/bsj.2022.5486>
- Farhani R, N. I. B., Chiroma, S. M., Tengku Mohamad, T. A. S., & Moklas, M. A. M. 2022. Centella asiatica L. Urban protects against cognitive dysfunction in aluminum chloride-induced neurotoxicity in rats via inhibition of acetylcholinesterase level. *Egyptian Journal of Basic and Applied Sciences*, 10(1), 33–44. <https://doi.org/10.1080/2314808x.2022.213911>.
- Farina N, Jacobs R, Turana Y, Fitri FI, Schneider M, Theresia I et al. 2023. Comprehensive measurement of the prevalence of dementia in low- and middle-income countries: STRiDE methodology and its application in Indonesia and South Africa. *BJPsych open*, 9(4), e102. <https://doi.org/10.1192/bjo.2023.76>.
- Flanagan L, Lucantoni F, Prehn JHM. 2016. Mislocalization of Mitochondrial Intermembrane Space Proteins. In: *Mitochondria and Cell Death*.
- Flynn, C. M., Omoluabi, T., Janes, A. C., Rodgers, E., Torrville, S. E., Negandhi, B. L., Nobel, T. A., Mayengbam, S., & Yuan, Q. (2025). Targeting early tau pathology: probiotic diet enhances cognitive function and reduces inflammation in a preclinical Alzheimer's model. *Alzheimer's Research & Therapy*, 17(1). <https://doi.org/10.1186/s13195-025-01674-1>.
- Gavurova B, Kovac V, Jarcuskova D. 2018. Development of Regional in Disparities in Alzheimer's Disease Mortality in the Slovak Republic from 1996 to 2015. *International Journal of Alzheimer's Disease*. <https://doi.org/10.1155/2018/3149495>.
- Gao, K., Chen, C., Ke, X., Fan, Q., Wang, H., Li, Y., & Su, C. 2023. Improvements of Age-Related Cognitive Decline in Mice by Lactobacillus helveticus WHH1889, a Novel Strain with Psychobiotic Properties. *Nutrients*, 15(17), 3852. <https://doi.org/10.3390/nu15173852>.
- Ghareeb DA, Mohamed S, Elsayed M. 2013. The interrelationship between insulin resistance and Alzheimer development. *J. Biomedical Science and Engineering*, 6, 754-773. [doi:10.4236/jbise.2013.67093](https://doi.org/10.4236/jbise.2013.67093).

- Ghidoni, R. 2022. Increased Serum Beta-Secretase 1 Activity is an Early Marker of Alzheimer's Disease. *Journal of Alzheimer's Disease*, 1–9. <https://doi.org/10.3233/jad-215542>.
- Giil LM, Midttun Ø, Refsum H, Ulvik A, Advani R, Smith AD et al. 2017. Kynurenine Pathway Metabolites in Alzheimer's Disease. *Journal of Alzheimer's Disease*, 60(2), 495–504. [doi:10.3233/jad-170485](https://doi.org/10.3233/jad-170485).
- Gravenfors, Y, Viklund J, Blid J, Ginman T, Karlström S, Kihlström J et al. 2012. New Aminoimidazoles as β -Secretase (BACE-1) Inhibitors Showing Amyloid- β (A β) Lowering in Brain. *Journal of medicinal chemistry*. 55. 10.1021/jm300991n.
- Halim. F. (2023). Hematoxyllin-Eosin (HE) Staining v1. [Doi: 10.17504/protocols.io.4r3127zo3g1y/v1](https://doi.org/10.17504/protocols.io.4r3127zo3g1y/v1).
- Hamid M, Zahid S. Ameliorative Effects of Probiotics in AlCl₃-induced Mouse Model in Alzheimer's Disease. *Appl Microbiol Biotechnol* [Internet]. 2023;107(18):5803–12. Tersedia pada: <https://pubmed.ncbi.nlm.nih.gov/37462697/>.
- Hempel H, Blennow K, Shaw LM, Hoessler YC, Zetterberg H, Trojanowski JQ. 2010. Total and Phosphorylated Tau Protein as biological markers of Alzheimer Disease. *Exp Gerontol*. 45: p30-30.
- Hempel H, Vassar R, Strooper BD, Hardy J, Willem M, Singh N, et al. 2021. The β -Secretase BACE1 in Alzheimer's Disease, *Biological Psychiatry*, Volume 89, Issue 8, Pages 745-756.
- Hao, W., Zhu, X., Liu, Z., Song, Y., Wu, S., Lu, X., Yang, J., & Jin, C. 2023. Aluminum exposure induces central nervous system impairment via activating NLRP3-mediated pyroptosis pathway. *Ecotoxicology and Environmental Safety*, 264, 115401. <https://doi.org/10.1016/j.ecoenv.2023.115401>
- Hapsari A, Legowo AM, Pramono YB. 2014. Total Lactic Acid Bacteria, PH Values, Soluble Protein and Antioxidant Activity of Dadih Using *L. casei* and *L. plantarum* with Different Fermentation Time. *J. Appl. Food Technol*. 1, 4–7.
- Harach T, Marungruang N, Duthilleul N, Cheatham V, Mc Coy KD, Frisoni G, et al. 2017. Reduction of Abeta amyloid pathology in APPPS1 transgenic mice in the absence of gut microbiota. *Scientific reports*, 7, 41802. <https://doi.org/10.1038/srep41802>.
- Harnentis H, Nurmiati N, Marlida Y, Adzitey F, Huda N. 2019. γ -Aminobutyric Acid Production by Selected Lactic Acid Bacteria Isolate of an Indonesian Indigenous Fermented Buffalo Milk (Dadiah) Origin. *Vet. World*, 12, 1352–1357.
- Harun H, Wirasti Y, Purwanton B, Purwati E. 2020. Characterization of Lactic Acid Bacteria and Determination of Antimicrobial Activity in Dadih from

- Air Dingin Alahan Panjang District, Solok Regency-West Sumatera. *Syst. Rev. Pharm.* 11, 583–586.
- Hassan, S.A., Kadry, M.O. 2021. Neurodegenerative and Hepatorenal Disorders Induced Via Aluminum Chloride in Murine System: Impact of β -Secretase, MAPK, and KIM. *Biol Trace Elem Res* 199, 227–236. <https://doi.org/10.1007/s12011-020-02132-9>.
- He, X., Sun, J., & Huang, X. 2018. Expression of caspase-3, Bax and Bcl-2 in hippocampus of rats with diabetes and subarachnoid hemorrhage. *Experimental and therapeutic medicine*, 15(1), 873–877. <https://doi.org/10.3892/etm.2017.5438>
- Hegazy, Nefisa, Abdelsalam, Omar, & Omara, E. A. 2024. Evaluation of mice treatment with aluminium chloride in rotenone model of Parkinson's disease. *Egyptian Journal of Chemistry*. <https://doi.org/10.21608/ejchem.2024.248072.8856>.
- Helmizar H, Yuswita E, Putra AE. 2018. Analysis of the Nutrients and Microbiological Characteristics of the Indonesian Dadih As a Food Supplementation. *Glob J Health Sci [Internet]*.11(1):155. Available from: <http://www.ccsenet.org/journal/index.php/gjhs/article/view/0/37909>.
- Hempel S, Newberry S, Ruelaz A, Wang Z, Mile JNV, Suttorp MJ, et al. 2012. Safety of Probiotics to Reduce Risk and Prevent or Treat Disease. *Evidence Report/Technology Assessment* 200:1-94.
- Hilbertina N. 2015. Peranan patologi dalam diagnostik tumor payudara. *Majalah Kedokteran Andalas*, 38(2), 1-8.
- Hillert LK, Ivanisenko NV, Busse D, Espe J, König C, Peltek SE. 2020. Dissecting DISC regulation via pharmacological targeting of caspase-8/cFLIPL heterodimer. *Cell Death Differ*.
- Homma H, Tanaka H, Fujita K, Okazawa H. 2024 Necrosis Links Neurodegeneration and Neuroinflammation in Neurodegenerative Disease. *Int. J. Mol. Sci.* 25, 3636. <https://doi.org/10.3390/ijms25073636>.
- Holzer P, Farzi A. 2014. Neuropeptides and the microbiota-gut-brain axis. *Advances in experimental medicine and biology*, 817, 195–219. https://doi.org/10.1007/978-1-4939-0897-4_9.
- Hudson AP, Balin BJ, Crutcher K, Robinson S. 2011. New Thinking on The Etiology and Pathogenesis of Late-Onset Alzheimer's Disease. *International Journal of Alzheimer's Disease*. Article ID 848395, 2 pages. [doi:10.4061/2011/848395](https://doi.org/10.4061/2011/848395).
- Hussein RS, Omnia M. Abd El Hamid, Said AM, Maksoud HA. (2024). Biochemical effect of aluminum chloride induced brain damage in mice. *Benha Veterinary Medical Journal*. <https://doi.org/10.21608/bvmj.2024.264511.1773>.

- Iyer R, Tomar SK. 2009. Folate: A Functional Food Constituent. *J. Food Sci.* 74, R114–R122.
- Jandhyala S, Talukdar R, Subramanyam C, Vuyyuru H, Sasikala M, Reddy D. 2015. Role of the normal gut microbiota. *World Journal of Gastroenterology*.
- Jannat S, Balupuri A, Ali MY, Hong SS, Choi CW, Choi YH, et al. 2019. Inhibition of β -site amyloid precursor protein cleaving enzyme 1 and cholinesterases by pterosins via a specific structure – activity relationship with a strong BBB permeability. 51:1–18. <https://doi.org/10.1038/s12276-019-0205-7>
- Jaszczyk A, Stankiewicz AM, Juszczak GR. 2022. Dissection of Mouse Hippocampus with Its Dorsal, Intermediate and Ventral Subdivisions Combined with Molecular Validation. *Brain Sciences*. 12(6):799. <https://doi.org/10.3390/brainsci12060799>
- Jatmiko YD, Howarth GS, Barton MD. 2019. Evaluation of Yeast Diversity in Dadih and Dangke Using PCR-RFLP of Internal Transcribed Spacer Region. *IOP Conf. Ser. Earth Environ. Sci.* 391, 12025.
- Jukic PN, Dell'Aquila G, Carrieri B, Maggio M, Cherubini A, & Orlandoni P. 2021. Potential Role of Probiotics for Inflammaging: A Narrative Review. *Nutrients*, 13(9), 2919. <https://doi.org/10.3390/NU13092919>.
- Kaiyrlykyzy A, Kozhakhmetov S, Babenko, D. et al. 2022. Studi perubahan mikrobiota usus pada pasien demensia Alzheimer dari Kazakhstan. *Rep Sains* 12, 15115. <https://doi.org/10.1038/s41598-022-19393-0>.
- Kametani F, Hasegawa M. 2018. Reconsideration of Amyloid Hypothesis and Tau Hypothesis in Alzheimer's Disease. *Frontiers in Neuroscience*. p1-11.
- Kelly JR, Kennedy PJ, Cryan JF, Dinan TG, Clarke G, Hyland NP. 2015. Breaking down the barriers: the gut microbiome, intestinal permeability and stress-related psychiatric disorders. *Frontiers in Cellular Neuroscience*. vol 9. p392.
- Kementerian Kesehatan Republik Indonesia. 2016. Menkes: Lansia yang Sehat, Lansia yang Jauh dari Demensia. <https://www.kemkes.go.id/article/view/16031000003/menkes-lansia-yang-sehat-lansia-yang-jauh-dari-demensia.html>. Diakses pada tanggal 31 Juli 2023.
- Kementerian Kesehatan Republik Indonesia. 2018. Data Komposisi Pangan Indonesia. <https://www.panganku.org/id-ID/view>. Diakses pada tanggal 25 Juli 2023.
- Kim EJ, Anko ML, Flensberg C, Majewski IJ, Geng FS, Firas J, et al. 2018. BAK/BAX-mediated apoptosis is a Myc-induced Roadblock to reprogramming. *Stem cell reports*, 10(2), 331-338.

- Kim YA, Keogh JB, Clifton PM. 2018. Probiotics, prebiotics, synbiotics and insulin sensitivity. *Nutr Res Rev.* 31(1):35–51.
- Knopman DS, Holtzman DM, Hyman BT. 2021 Alzheimer disease. *Nature*, 7(33), p1–21. doi: [10.1038/s41572-021-00269-y](https://doi.org/10.1038/s41572-021-00269-y).
- Kobayashi, Y., Sugahara, H., Shimada, K., Mitsuyama, E., Kuhara, T., Yasuoka, A., Kondo, T., Abe, K., & Xiao, J. 2017. Therapeutic potential of *Bifidobacterium breve* strain A1 for preventing cognitive impairment in Alzheimer's disease. *Scientific Reports*, 7(1), 13510. <https://doi.org/10.1038/S41598-017-13368-2>.
- Kocahan S, Doğan Z. 2017. Mechanisms of Alzheimer's Disease Pathogenesis and Prevention: The Brain, Neural Pathology, N-methyl-D-aspartate Receptors, Tau Protein and Other Risk Factors. *Clinical psychopharmacology and neuroscience : the official scientific journal of the Korean College of Neuropsychopharmacology*, 15(1), 1–8. <https://doi.org/10.9758/cpn.2017.15.1.1>
- Koffie RM, Meyer-Luehmann M, Hashimoto T, Adams KW, Mielke ML, Garcia-Alloza M, et al. 2009. Oligomeric amyloid beta associates with postsynaptic densities and correlates with excitatory synapse loss near senile plaques. *Proc Natl Acad Sci U S A.* 106(10):4012-7. doi: [10.1073/pnas.0811698106](https://doi.org/10.1073/pnas.0811698106).
- Korhone H & Pihlanto A. 2006. Bioactive Peptides: Production and Functionality. *International Dairy Journal*, 16: 945-960.
- Kumar A, Singh A, Ekavali. 2015. A review on Alzheimer's disease pathophysiology and its management: an update. *Pharmacological Reports*: p195-203.
- Kwok KO, Fries LR, Silva-Zolezzi I, Thakkar SK, Iroz A, & Blanchard C. 2022. Effects of Probiotic Intervention on Markers of Inflammation and Health Outcomes in Women of Reproductive Age and Their Children. *Frontiers in Nutrition*, 9. <https://doi.org/10.3389/fnut.2022.889040>.
- Lebeer S, Bron PA, Marco ML, Van Pijkeren JP, O'Connell Motherway M, et al. 2018. Identification of probiotic effector molecules: present state and future perspectives. *Curr Opin Biotechnol.* 49:217-223.
- Lee KH, Cha M, Lee BH. 2020. Neuroprotective Effect of Antioxidants in the Brain. *International journal of molecular sciences*, 21(19), 7152. <https://doi.org/10.3390/ijms21197152>.
- Li C, Zhao B, Fan Y, Jia X & Liu Y. 2020. Expression of BACE1 in the Rat Carotid Body. *Front. Physiol.* 11:505. doi: [10.3389/fphys.2020.00505](https://doi.org/10.3389/fphys.2020.00505).
- Lin WY, Lin JH, Kuo YW, Chiang PR, Ho HH. 2022. Probiotics and their Metabolites Reduce Oxidative Stress in Middle-Aged Mice. *Current microbiology*, 79(4), 104. <https://doi.org/10.1007/s00284-022-02783-y>.

- Lipoeto NI, Geok Lin K, Angeles-Agdeppa I. 2013. Food Consumption Patterns and Nutrition Transition in South-East Asia. *Public Health Nutrition*. 16(9):1637-1643. Doi:1017/S1368980012004569.
- Liu Y. 2011. Cellular and molecular mechanisms of renal fibrosis. *Nature reviews. Nephrology*, 7(12), 684–696. <https://doi.org/10.1038/nrneph.2011.149>.
- Liu Z, Wang H. Probiotics alleviate Ammatory Bowel disease in mice by regulating intestinal microorganisms-bile acid-NLRP3 in Ammasome pathway. 2021;68(4):687–93.
- Long-Smith C, O'Riordan KJ, Clarke G, Stanton C, Dinan TG, Cryan JF. 2020. Microbiota-Gut-Brain Axis: New Therapeutic Opportunities. *Annual review of pharmacology and toxicology*, 60, 477–502. <https://doi.org/10.1146/annurev-pharmtox-010919-023628>.
- Louneva N, Cohen JW, Han LY, Talbot K, Wilson RS, Bennett DA et al. 2008. Caspase-3 is enriched in postsynaptic densities and increased in Alzheimer's disease. *The American journal of pathology*, 173(5), 1488–1495. <https://doi.org/10.2353/ajpath.2008.080434>.
- Love S. 2004. Contribution of cerebral amyloid angiopathy to Alzheimer's disease. *J. Neurol. Neurosurg. Psychiatry*. 75:1–4.
- Mafra D, Lobo J, Barros AF, Koppe L, Vaziri ND, Fouque D. 2014. Role of altered intestinal microbiota in systemic inflammation and cardiovascular disease in chronic kidney disease. *Future Microbiology* 9, 3: p399-410.
- Maharani AI, Riskierdi F, Febriani I, Kurnia KA, Rahman NA, Ilahi NF et al. 2022. Peran Antioksidan Alami Berbahan Dasar Pangan Lokal dalam Mencegah Efek Radikal Bebas. *Prosiding Seminar Nasional Biologi*, 1(2), 390–399. <https://doi.org/10.24036/proseminasbio/vol1/355>.
- Maitre M, Klein C, Patte-Mensah C, Mensah-Nyagan AG. 2020. Tryptophan metabolites modify brain A β peptide degradation: A role in Alzheimer's disease?. *Progress in neurobiology*, 190, 101800. <https://doi.org/10.1016/j.pneurobio.2020.101800>.
- Maley K, Komasara L. 2003. Introduction to Lab Animal Science [Internet]. [diunduh 2022 Nov 18]. http://www.medaille.edu/vmacer/120_lab_rodentlab1.htm.
- Margolis KG, Cryan JF, Mayer EA. 2021. The Microbiota-Gut-Brain Axis: From Motility to Mood. *Gastroenterology*, 160(5), 1486–1501. <https://doi.org/10.1053/j.gastro.2020.10.066>.
- Martin CR, Osadchiy V, Kalani A, Mayer EA. 2018. The Brain-Gut-Microbiome Axis. *Cellular and molecular gastroenterology and hepatology*, 6(2), 133–148. <https://doi.org/10.1016/j.jcmgh.04.003>.
- McGrattan AM, McGuinness B, McKinley MC, Kee F, Passmore P, Woodside JV, et al. 2019. Diet and Inflammation in Cognitive Ageing and

- Alzheimer's Disease. *Current nutrition reports*, 8(2), 53–65. <https://doi.org/10.1007/s13668-019-0271-4>.
- Meilina A, Anjani G, Djamiatun K. 2020. The effect of fortified dadih (fermented buffalo milk) with vitamin D 3 on caecum cholesterol concentration and high sensitivity C-reactive protein (Hs-Crp) level in type 2 diabetes mellitus rat model. *Potravin Slovak J Food Sci*. 14:960–6.
- Mendiola P, Berumen, Padilla, Garcia A. 2016. Therapies for Prevention and Treatment of Alzheimer's Disease. *BioMed Research International*. p1-17.
- Milajerdi A, Mousavi SM, Sadeghi A, Salari-Moghaddam A, Parohan M, Larijani B, Esmailzadeh A, & Esmailzadeh A. 2020. The effect of probiotics on inflammatory biomarkers: a meta-analysis of randomized clinical trials. *European Journal of Nutrition*, 59(2), 633–649. <https://doi.org/10.1007/S00394-019-01931-8>
- Mishra CB, Shruti S, Gusain S, Kumar P, Kumari S, Choi YS, Kumari J, et al. 2024. Multitarget action of Benzothiazole-piperazine small hybrid molecule against Alzheimer's disease: In silico, In vitro, and In vivo investigation. *Biomedicine & Pharmacotherapy*, Volume 174: 116484, ISSN 0753-3322, <https://doi.org/10.1016/j.biopha.2024.116484>.
- Mohandas E, Rajmohan V, Raghunath B. 2009. Neurobiology of Alzheimer's disease. *Indian journal of psychiatry*, 51(1), 55–61. <https://doi.org/10.4103/0019-5545.44908>.
- Mustafa HN. 2020. Neuro-amelioration of cinnamaldehyde in aluminum-induced Alzheimer's disease rat model. *J Histotechnol*. 43: 11-20.
- Nabavi SF, Di Lorenzo A, Izadi M, Sobarzo-Sánchez E, Daglia M, Nabavi SM. 2015. Antibacterial Effects of Cinnamon: From Farm to Food, Cosmetic and Pharmaceutical Industries. *Nutrients*, 7(9), 7729–7748. <https://doi.org/10.3390/nu7095359>.
- Nagpal R, Mainali R, Ahmadi S, Wang S, Singh R, Kavanagh K, et al. 2018. Gut microbiome and aging: Physiological and mechanistic insights. *Nutrition and healthy aging*, 4(4), 267–285. <https://doi.org/10.3233/NHA-170030>.
- Naomi R, Embong H, Othman F, Ghazi HF, Maruthey N, & Bahari H. 2021. Probiotics for Alzheimer's Disease: A Systematic Review. *Nutrients*, 14(1), 20. <https://doi.org/10.3390/nu14010020>
- Nuraida L. 2015. A Review: Health Promoting Lactic Acid Bacteria in Traditional Indonesian Fermented Foods. *Food Sci. Hum. Wellness*, 4, 47–55.
- Nurliyani, Julia M, Harmayani E, Ikawati M, Baliarti E. 2015. Potency of *Lactobacillus plantarum* Dad-13 and Sweet Potato (*Ipomoea batatas*) Fiber as Immunomodulator in Rats Infected with *Salmonella typhimurium*. *J. Food Res*. 4, 1.
- Obisesan, A. O., Dodo, S. O., Adeniyi, F., Olayinka, J. N., Adeoluwa, O. A., & Fafure, A. A. 2024. Potential probiotic (*L. plantarum*, *L. pentosus*, *P.*

- pentosaceus, W. cibaria and L. rhamnosus) alleviates memory impairment in lipopolysaccharide-induced cognitive dysfunction and neurotoxicity in mice brain via protection against neuroinflammation and neurodegeneration. *Alzheimers & Dementia*, 20(S6). <https://doi.org/10.1002/alz.089920>.
- Olsen RW, Li GD. 2012. GABA. Basic Neurochemistry. Academic Press: Cambridge, MA, USA. p 367–376. <https://doi.org/10.1016/B978-0-12-374947-5.00018-3>
- Omar SH. 2019. Mediterranean and MIND Diets Containing Olive Biophenols Reduces the Prevalence of Alzheimer's Disease. *International Journal of Molecular Sciences*. 20(11):2797. <https://doi.org/10.3390/ijms20112797>.
- Pan YQ, Zheng QX, Jiang XM, Chen XQ, Zhang XY, Wu JL. 2021. Probiotic supplements improve blood glucose and insulin resistance/sensitivity among healthy and GDM pregnant women: a systematic review and meta-analysis of randomized controlled trials. *Evidence-based Com- plem Altern Med*. 9830200.
- Panza F, Solfrizzi V, Frisardi V, Imbimbo BP, Capurso C, D'Introno A, et al. 2009. Beyond the Neurotransmitter-focused approach in treating Alzheimer's Disease: Drugs Targeting beta-amyloid and tau protein. *Aging Clin Exp Res*. 21:386-406.
- Park, M. R., Shin, M., Mun, D., Jeong, S.-Y., Jeong, D.-Y., Song, M., Ko, G., Unno, T., Kim, Y., & Oh, S. 2020. Probiotic Lactobacillus fermentum strain JDFM216 improves cognitive behavior and modulates immune response with gut microbiota. *Scientific Reports*, 10(1), 21701. <https://doi.org/10.1038/S41598-020-77587-W>.
- Parrish AB, Freel CD, Kornbluth S. 2013. Cellular mechanisms controlling caspase activation and function. *Cold Spring Harbor perspectives in biology*, 5(6), a008672. <https://doi.org/10.1101/cshperspect.a008672>.
- Pasinetti G. 2022. Synbiotic-derived metabolites reduce neuroinflammatory symptoms of Alzheimer's disease. *Current Developments in Nutrition*, 6(Supplement_1), p804. <https://doi.org/10.1093/cdn/nzac064.023>.
- Patel R. 2016. Nasal Insulin Spray to Treat Alzheimer's Disease. 10.13140/RG.2.2.24829.56802.
- Pato U. 2004. Potensi Bakteri Asam Laktat Yang Diisolasi Dari Dadih Menurunkan Kolesterol Darah. *Agritech*, 24, 1–8.
- Pattni KM. 2013. Beta-amyloid as pathogenesis of alzheimer disease. *E-jurnal medika udayana*. 1306-1317. <https://ojs.unud.ac.id/index.php/eum/article/view/6103>.
- Pavithra RS, Lakshmisree S. 2015. Probiotics–A Miracle in Periodontal Therapy. *Scholars Journal of Dental Sciences. Sci.*, 2(4):265- 269.

- Perdossi. 2015. Panduan Praktik Klinik: Diagnosis dan Penatalaksanaan Demensia.
- Pintado MM, Gomes AM, Freitag AC. 2014. Probiotic Bacteria: From Science to Consumer's Benefit in *Probiotic Bacteria, Fundamentals, Therapy and Technological Aspect*. Edited by J.P. Sousa de Silva and A.C. Freitas. Pan Stanford Publishing. CRCPre ss. Boca Raton.
- Plaza-Diaz J, Ruiz-Ojeda FJ, Gil-Campos M, Gil A. 2019. Mechanisms of Action of Probiotics. *Adv Nutr*.10(suppl_1):S49-S66.
- Plóciennik A, Prendecki M, Zuba E, Siudzinski M, Dorszewska J. 2015 Activated Caspase-3 and Neurodegeneration and Synaptic Plasticity in Alzheimer's Disease. *Advances in Alzheimer's Disease*, 4, 63-77. doi: [10.4236/aad.2015.43007](https://doi.org/10.4236/aad.2015.43007).
- Porter AG, Jänicke RU. 1999. Emerging roles of caspase-3 in apoptosis. *Cell death and differentiation*, 6(2), 99–104. <https://doi.org/10.1038/sj.cdd.4400476>
- Pramana, A., Yudhistira, B., Jayalaksamana, M. et al. Dadih, traditional fermented buffalo milk: a comprehensive review of the aspects of gastronomy, health benefits, and product development. *J. Ethn. Food* **12**, 1 (2025). <https://doi.org/10.1186/s42779-024-00261-3>
- Purba JS. 2020. Potensi Terapi Sel Punca untuk Penyakit Alzheimer: Kenyataan atau Harapan?. *Jurnal Cermin Dunia Kedokteran*. vol. 47 no. 1 th. 2020. P53-57.
- Purwandhani SN, Utami T, Milati R, Rahayu ES. 2018. Isolation, Characterization and Screening of Folate-Producing Bacteria from Traditional Fermented Food (Dadiah). *International Food Research Journal*, 25(2), 566-572.
- Purwati E, Aritonang SN, Melia S, Juliyarsi I, Purwanto H. 2016. *Manfaat Probiotik Bakteri Asam Laktat Dadiah Menunjang Kesehatan Masyarakat*. Lembaga Pengembangan Teknologi Informasi dan Komunikasi. Padang, Indonesia: Universitas Andalas.
- Qiu CX, Kivipelto M, von Strauss E. 2009. Epidemiology of Alzheimer's Disease: Occurrence, Determinants, And Strategies Towards Intervention. *Dialogues in Clinical Neuroscience*, 11(2): p111-28.
- Quigley EMM. 2017. Gut microbiome as a clinical tool in gastrointestinal disease management: are we there yet?. *Nature reviews. Gastroenterology & hepatology*, 14(5), 315–320. <https://doi.org/10.1038/nrgastro.2017.29>.
- Rahmawati W, Lipoeto NI, & Syafrita Y. 2016. Hubungan Konsumsi Makanan Fungsional Sumber Antioksidan dengan Fungsi Kognitif dan Kadar 4-Hydroxynonenal (4-HNE) Plasma Lansia. *Jurnal Kesehatan Andalas*, 5(1). <https://doi.org/10.25077/jka.v5i1.451>
- Rebai, O., & Djebli, N. E. 2008. *Chronic Exposure to Aluminium Chloride in Mice: Explanatory Behaviors and Spatial Learning*. [http://www.idosi.org/abr/2\(1-2\)/5.pdf](http://www.idosi.org/abr/2(1-2)/5.pdf).

- Resende LV, Pinheiro LK, Miguel MGCP, Ramos CL, Vilela DM, Schwan RF. 2018. Microbial Community and Physicochemical Dynamics during the Production of 'Chicha', a Traditional Beverage of Indigenous People of Brazil. *World J. Microbiol. Biotechnol.* 34, 46.
- Rezaeiasl, Z., Salami, M., Sepehri, G. 2019. The Effects of Probiotic Lactobacillus and Bifidobacterium Strains on Memory and Learning Behavior, Long-Term Potentiation (LTP), and Some Biochemical Parameters in β -Amyloid-Induced. Rat's Model of Alzheimer's Disease. *Journal of Food Science and Nutrition*, 24(3), 265–273. <https://doi.org/10.3746/PNF.2019.24.3.265>.
- Rosalina L, Mariati N, Judijanto L, Aliyah SH, Lestary TT & Asman A. 2024. Role of Ovaryectomy and D-Galactose Load to Cognitive Function and Behavior of Sprague Dawley. *South Eastern European Journal of Public Health*, 1426–1435. <https://doi.org/10.70135/seejph.vi.2474>
- Ru M, Liu H. 2018. Association between Y-Maze Acquisition Learning and Major Histocompatibility Complex Class II Polymorphisms in Mice. *BioMed Research International*. 6381932, 6 pg, 2018. <https://doi.org/10.1155/2018/6381932>
- Salinaro AT, Pennisi M, Di Paola R, Scuto M, Crupi R, Cambria MT, et al. 2018. *Immunity & ageing : I* Neuroinflammation and neurohormesis in the pathogenesis of Alzheimer's disease and Alzheimer-linked pathologies: modulation by nutritional mushrooms. & A, 15, 8. <https://doi.org/10.1186/s12979-017-0108-1>.
- Sari ML, Abrar A, Merint M. 2013. Isolation and Characterization of Lactic Acid Bacteria in Broiler Chicken Intestines. *Agripet*: Vol 13 (1): 43-48.
- Savignac HM, Tramullas M, Kiely B, Dinan TG, Cryan JF. 2015. Bifidobacteria modulate cognitive processes in an anxious mouse strain. *Behavioural brain research*, 287, 59–72. <https://doi.org/10.1016/j.bbr.2015.02.044>.
- Sengupta P. 2013. The laboratory rat: Relating its age with human's. *International Journal of Preventive Medicine*. 4(6): 624–630.
- Shen X, Finn ES, Scheinost D, Rosenberg MD, Chun MM, Papademetris X, et al. 2017. Using connectome-based predictive modeling to predict individual behavior from brain connectivity. *Nature protocols*, 12(3), 506–518. <https://doi.org/10.1038/nprot.2016.178>.
- Sherwin E, Dinan TG, Cryan JF. 2018. Recent developments in understanding the role of the gut microbiota in brain health and disease. *Annals of the New York Academy of Sciences*. 1420(1): p5–25.
- Shunan D, Yu M, Guan H, Zhou Y. 2021. Neuroprotective effect of Betalain against AlCl₃-induced Alzheimer's disease in Sprague Dawley Rats via putative modulation of oxidative stress and nuclear factor kappa B (NF- κ B) signaling pathway. *Biomedicine & Pharmacotherapy*. Volume 137. ISSN 0753-3322. <https://doi.org/10.1016/j.biopha.2021.111369>.

- Silva YP, Bernardi A, Frozza RL. 2020. The Role of Short-Chain Fatty Acids From Gut Microbiota in Gut-Brain Communication. *Front. Endocrinol.* 11:25. doi: 10.3389/fendo.2020.00025.
- Silva NS, Cerdeira CD, dos Reis TM, Rodrigues M R. 2025. Effects of Probiotics on Markers of Oxidative/Nitrosative Stress and Damage Associated with Inflammation in Non-Communicable Diseases: a Systematic Review and Meta-Analysis of Randomized Placebo-Controlled Trials. <https://doi.org/10.21203/rs.3.rs-5791482/v1>.
- Sirait CH & Setyanto H. 1995. Evaluasi mutu dadih di daerah produsen. In *Prosiding Seminar Nasional Sains dan Teknologi Peternakan, "Pengolahan dan Komunikasi Hasil-Hasil Peternakan"*. Balai Penelitian Ternak Ciawi-Bogor.
- Sirois M. 2005. *Laboratory Animal Medicine : Principles and Procedures*. United States of America: Mosby Inc
- Suckow MA, Steven HW, Craig LF. (2006). *The Laboratory Rat*. 2nd Edition. California (USA): Academic Pr.
- Surono IS, Nurani D. 2001. *Exploration of Indigenous Lactic Acid Bacteria from Dadih of West Sumatra for Good Starter Cultures and Probiotic Bacteria*; Domestic Collaborative Research Grant Program(DCRG), URGE Project, 2000–2001; Research Report; Directorate General of Higher Education, Ministry of Education and Culture: Indonesia.
- Surono IS, Pato U, Koesnandar, Hosono, 2009. A. In *Vivo Antimutagenicity of Dadih Probiotic Bacteria towards Trp-P1*. *Asian-Australas. J. Anim. Sci.* 22, 119–123.
- Surono IS. 2015. Indonesian Dadih. In *Fermented Milk and Dairy Products*; Puniya, A.K., Ed.; CRC Press: Boca Raton, FL, USA. p377–399.
- Takahashi RH, Nagao T, Gouras GK. 2017. Plaque formation and the intraneuronal accumulation of β -amyloid in Alzheimer's disease. *Pathology international*. Apr;67(4):185-93.
- Tamime A, Robinson R. 2007. *Yogurt, Science and Technology*. Cambridge England: Woodhead Publishing Limited, Abington Hall, Abington.
- Taylor R, Cullen S, Martin S. 2008. Apoptosis: controlled demolition at the cellular level. *Nat Rev Mol Cell Biol* 9, 231–24. <https://doi.org/10.1038/nrm2312>.
- Taylor MK, Sullivan DK, Keller JE, Burns JM and Swerdlow RH. 2022. Potential for Ketotherapies as Amyloid-Regulating Treatment in Individuals at Risk for Alzheimer's Disease. *Front. Neurosci.* 16:899612. <https://doi.org/10.3389/fnins.2022.899612>.
- Thursby E, Juge N. 2017. Introduction to the human gut microbiota. *Biochemical Journal*. 474: p. 1823–1836. doi: 10.1042/BCJ20160510.

- Tiwari S, Atluri V, Kaushik A, Yndart A, Nair M. 2019. Alzheimer's Disease: Pathogenesis, Diagnostics and Therapeutics. *International Journal of Nanomedicine*. 14: 5541-5554.
- Tiwari V, Patel AB. 2012. Impaired glutamatergic and GABAergic function at early age in A β PPswe-PS1dE9 mice: implications for Alzheimer's disease. *Journal of Alzheimer's disease : JAD*, 28(4), 765–769. <https://doi.org/10.3233/JAD-2011-111502>
- Ton AMM, Campagnaro BP, Alves GA, Aires R, Côco LZ, Arpini CM, et al. 2020. Oxidative Stress and Dementia in Alzheimer's Patients: Effects of Synbiotic Supplementation. *Oxidative medicine and cellular longevity*, 2020, 2638703. <https://doi.org/10.1155/2020/2638703>.
- Vajda F J E. 2002. Neuroprotection and neurodegenerative disease. *Journal of Clinical Neuroscience*, 9(1), 4–8. doi:10.1054/jocn.2001.1027.
- Van Aken O, Van Breusegem F. 2015. *Licensed to Kill: Mitochondria, Chloroplasts, and Cell Death*. *Trends in Plant Science*, 20(11), 754–766. doi:10.1016/j.tplants.2015.08.002.
- Van Damme P, Martens L, Van Damme J, Hugelier K, Staes A, Vandekerckhove J, et al. 2005. Caspase-specific and nonspecific in vivo protein processing during Fas-induced apoptosis. *Nature methods*, 2(10), p771–777. <https://doi.org/10.1038/nmeth792>.
- Van Hemert S, Ormel G. 2014. Influence of The Multispecies Probiotic Ecologic Barrier in Parameters of Intestinal Barrier Function. *Food and Nutrition Sciences*. 5(18). P1739-1745.
- Varela-trinidad GU, Domínguez-Díaz C, Solórzano-Castanedo K, Íñiguez-Gutiérrez L, Hernández-Flores TdJ, Fafutis-Morris M. 2022. Probiotics : Protecting Our Health from the Gut Probiotics : Protecting Our Health from the Gut, *Microorganism*, 10(7). <https://doi.org/10.3390/microorganisms10071428>.
- Veenstra SJ, Rueeger H, Voegtle M, Lueoend R, Holzer P, Hurth K, et al. 2018. Discovery of amino-1,4-oxazines as potent BACE-1 inhibitors. *Bioorganic & Medicinal Chemistry Letters*. 28(12):p2195-2200, ISSN 0960-894X.
- Venema K, Surono IS. 2019. Microbiota Composition of Dadih—A Traditional Fermented Buffalo Milk of West Sumatra. *Lett. Appl. Microbiol*. 68, 234–240.
- Viswanathan A, Greenberg SM. 2011. Cerebral amyloid angiopathy in the elderly. *Ann. Neurol*. 70:871–880.
- Wahl D, Coogan SC, Solon-Biet SM, de Cabo R, Haran JB, Raubenheimer D, et al. 2017. Cognitive and behavioral evaluation of nutritional interventions in rodent models of brain aging and dementia. *Clin Interv Aging*. 8; 12: 1419-1428. <https://doi.org/10.2147/CIA.S145247>

- Wang C, Zhang F, Jiang S, Siedlak SL, Shen L, Perry G, et al. 2016. Estrogen receptor- α is localized to neurofibrillary tangles in Alzheimer's disease. *Scientific Reports*. p1-10.
- Weller RO, Subash M, Preston SD, Mazanti I, Carare RO. 2008. Clearance of A β from the Brain in Alzheimer's Disease: Perivascular Drainage of Amyloid- β Peptides from the Brain and Its Failure in Cerebral Amyloid Angiopathy and Alzheimer's Disease. *Brain Pathology* Volume 18, Issue 2, p253-266.
- Westfall S, Lomis N, Prakash S. 2019. A novel synbiotic delays Alzheimer's disease onset via combinatorial gut-brain-axis signaling in *Drosophila melanogaster*. *PLoS ONE*, 14(4), p. 1–24. doi: 10.1371/journal.pone.0214985.
- WHO. 2023. Dementia. <https://www.who.int/news-room/fact-sheets/detail/dementia>. Diakses pada 06 Oktober 2022.
- Wirawati CU, Sudarwanto MB, Lukman DW, Wientarsih I, Srihanto EA. 2019. Diversity of Lactic Acid Bacteria in Dadih Produced by Either Back-Slopping or Spontaneous Fermentation from Two Different Regions of West Sumatra, Indonesia. *Vet. World*, 12, 823–829.
- Wirawati CU, Sudarwanto MB, Lukman DW, Wientarsih I. 2017. Karakteristik Dan Pengembangan Dadih Dari Susu Sapi Sebagai Alternatif Dadih Susu Kerbau (Characteristic and Development of Cow's Milk Dadih as an Alternate of Buffalo's Milk Dadih). *Wartazoa*, 27, 95–103.
- Wolfensohn S, Lloyd M. 2013, *Handbook of Laboratory Animal Management and Welfare*, 4th ed., Wiley-Blackwell, West Sussex, 234.
- Wyss-Coray T, Rogers J. 2012. Inflammation in Alzheimer disease-a brief review of the basic science and clinical literature. *Cold Spring Harbor perspectives in medicine*, 2(1), a006346. <https://doi.org/10.1101/cshperspect.a006346>.
- Xu, Weili, Marseglia A, Ferrari C, Wang HX. 2013. Alzheimer's Disease: A Clinical Perspective. *IntechOpen*, p3-33.
- Yang SJ, Lee JE, Lim SM, Kim YJ, Lee NK, Paik HD. 2018. Antioxidant and immune-enhancing effects of probiotic *Lactobacillus plantarum* 200655 isolated from kimchi. *Food science and biotechnology*, 28(2), 491–499. <https://doi.org/10.1007/s10068-018-0473-3>.
- Yano JM, Yu K, Donaldson GP, Shastri GG, Ann P, Ma L, et al. 2015. Indigenous bacteria from the gut microbiota regulate host serotonin biosynthesis. *Cell*, 161(2), 264–276. <https://doi.org/10.1016/j.cell.2015.02.047>.
- Yuli PK, Handharyani E, Sajuthi D, Sulistiawati E. 2015. Aktivitas glial fibrillary acidic protein pada otak marmot (*cavia porcellus*) sebagai model penyakit alzheimer dengan deplesi hormon testosteron. *J. Ked. Hew.* 9 (2): 141-146.

- Zhang, J., He, Z., Liu, L., Li, H., Wang, T., Zhu, X., Wang, Y., Zhu, D. liang, Ning, Y., & Xu, Y. (2023). Probiotic has prophylactic effect on spatial memory deficits by modulating gut microbiota characterized by the inhibitory growth of *Escherichia coli*. *Frontiers in Integrative Neuroscience*, 17. <https://doi.org/10.3389/fnint.2023.1090294>.
- Zhang Y. 2013. Caspases in Alzheimer's Disease. Neurodegenerative Diseases. *InTech*. Available from: <http://dx.doi.org/10.5772/54627>.
- Zhou, Y., Gutu, A., Kim, N., & O'Shea, E. K. 2024. Synapse weakening-induced caspase-3 activity confers specificity to microglia-mediated synapse elimination. *bioRxiv*. <https://doi.org/10.1101/2024.08.02.606316>
- Zhu G, Zhao J, Zhang H, Chen W, Wang G. 2021. Probiotics for Mild Cognitive Impairment and Alzheimer's Disease: A Systematic Review and Meta-Analysis. *Foods (Basel, Switzerland)*, 10(7), 1672. <https://doi.org/10.3390/foods10071672>.
- Zlokovic BV. 2008. The blood-brain barrier in health and chronic neurodegenerative disorders. *Neuron*. 57(2): p178-201. doi: 10.1016/j.neuron.2008.01.003. PMID: 18215617.