

DAFTAR PUSTAKA

- Adedayo, L., Ojo, G., Umanah, S., Aitokhuehi, G., Emmanuel, I.-O., Bamidele, O., 2023. Hippocampus: Its role in relational memory, in: *Hippocampus - More than just memory*. <https://doi.org/10.5772/intechopen.111478>
- Anand, K., Dhikav, V., 2012. Hippocampus in health and disease: An overview. *Ann Indian Acad Neurol*, 15(4), 239-246. <https://doi.org/10.4103/0972-2327.104323>
- Andersen, P., Morris, R., Amaral, D., Bliss, T., O'Keefe, J., 2009. *The hippocampus book*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195100273.001.0001>
- Boyce, R.W., Dorph-Petersen, K.A., Lyck, L., Gundersen, H.J.G., 2010. Designbased stereology: introduction to basic concepts and practical approaches for estimation of cell number. *Toxicol Pathol*, 38(7), 1011-1025. <https://doi.org/10.1177/0192623310385140>
- Camara, M. Lou, Corrigan, F., Jaehne, E.J., Jawahar, M.C., Ancomb, H., Baune, B.T., 2015. Effects of Centrally Administered Etanercept on Behavior, Microglia, and Astrocytes in Mice Following a Peripheral Immune Challenge. *Neuropsychopharmacology*, 40(2), 502-512. <https://doi.org/10.1038/npp.2014.199>
- Chandrasekaran, K., Choi, J., Arvas, M.I., Salimian, M., Singh, S., Xu, S., Gullapalli, R.P., Kristian, T., Russell, J.W., 2020. Nicotinamide mononucleotide administration prevents experimental diabetes-induced cognitive impairment and loss of hippocampal neurons. *Int J Mol Sci*, 21(11), 3756. <https://doi.org/10.3390/ijms21113756>
- Chauhan, P., Jethwa, K., Rathawa, A., Chauhan, G., Mehra, S., 2021. The anatomy of the hippocampus, in: *cerebral ischemia*. Exon Publications. <https://doi.org/10.36255/exonpublications.cerebralischemia.2021.hippocampus>
- Cruz, P.L., Moraes-Silva, I.C., Ribeiro, A.A., Machi, J.F., de Melo, M.D.T., dos Santos, F., da Silva, M.B., Strunz, C.M.C., Caldini, E.G., Irigoyen, M.C., 2021. Nicotinamide attenuates streptozotocin-induced diabetes complications and increases survival rate in rats: Role of autonomic nervous system. *BMC Endocr Disord*, 21(1), 133. <https://doi.org/10.1186/s12902-021-00795-6>
- Dik, B., Bahcivan, E., Faki, H.E., Uney, K., 2018. Combined treatment with interleukin-1 and tumor necrosis factor-alpha antagonists improve type 2 diabetes in rats. *Can J Physiol Pharmacol*, 96(8), 751-756. <https://doi.org/10.1139/cjpp-2017-0769>
- Eleazu, C.O., Eleazu, K.C., Chukwuma, S., Essien, U.N., 2013. Review of the mechanism of cell death resulting from streptozotocin challenge in experimental animals, its practical use and potential risk to humans. *J Diabetes Metab Disord*, 12(1), 60. <https://doi.org/10.1186/2251-6581-12-60>
- Foghi, K., Ahmadpour, S., 2013. Diabetes mellitus type 1 and neuronal degeneration in ventral and dorsal hippocampus. *Iran J Pathol* 9(1), 33-37.
- Gundersen, H.J.G., Bendtsen, T.F., Korbo, L., Marcussen, N., Moller, A., Nielsen,

- K., Nyengaard, J.R., Pakkenberg, B., Sorensen, F.B., Vesterby, A., West, M.J., 1988. Some new, simple and efficient stereological methods and their use in pathological research and diagnosis. *APMIS*, 96(5), 379-394. <https://doi.org/10.1111/j.1699-0463.1988.tb05320.x>
- Handayani, E.S., Susilowati, R., Setyopranoto, I., 2021. Pengembangan teknik transient bilateral common carotis artery occlusion (tBCCAO) sebagai model iskemia otak global pada tikus model diabetes yang diinduksi streptozotocin nicotinamide: Kajian volume iskemia otak, ekspresi advanced glycation end products receptor (RAGE) hippocampus, ekspresi brain-derived neurotrophic factor (BDNF) hippocampus, jumlah neuron CA1, CA2CA3 hippocampus, dan fungsi memori spasial. *Disertasi*. Program Doktor Ilmu Kedokteran dan Kesehatan Universitas Gadjah Mada.
- Hermawati, E., Sari, D.C.R., Partadiredja, G., 2015. The effects of black garlic ethanol extract on the spatial memory and estimated total number of pyramidal cells of the hippocampus of monosodium glutamate-exposed adolescent male Wistar rats. *Anat Sci Int*, 90(4), 275-286. <https://doi.org/10.1007/s12565-014-0262-x>
- Hofmann, I., Kemter, E., Fiedler, S., Theobalt, N., Fonteyne, L., Wolf, E., Wanke, R., Blutke, A., 2021. A new method for physical disector analyses of numbers and mean volumes of immunohistochemically labeled cells in paraffin sections. *J Neurosci Methods*, 361, 109272. <https://doi.org/10.1016/j.jneumeth.2021.109272>
- International Diabetes Federation, 2021. IDF Diabetes Atlas 2021, IDF official website.
- Iwata, N., Takayama, H., Xuan, M., Kamiuchi, S., Matsuzaki, H., Okazaki, M., Hibino, Y., 2015. Effects of etanercept against transient cerebral ischemia in diabetic rats. *Biomed Res Int*, 2015, 189292. <https://doi.org/10.1155/2015/189292>
- Jang, D.I., Lee, A.H., Shin, H.Y., Song, H.R., Park, J.H., Kang, T.B., Lee, S.R., Yang, S.H., 2021. The role of tumor necrosis factor alpha (Tnf- α) in autoimmune disease and current tnf- α inhibitors in therapeutics. *Int J Mol*, 22(5), 2719. <https://doi.org/10.3390/ijms22052719>
- Kipanyula, M.J., Sife, A.S., 2018. Global trends in application of stereology as a quantitative tool in biomedical research. *Biomed Res Int*, 2018, 1-9. <https://doi.org/10.1155/2018/1825697>
- Kottaisamy, C.P.D., Raj, D.S., Prasanth Kumar, V., Sankaran, U., 2021. Experimental animal models for diabetes and its related complications—a review. *Lab Anim Res*, 37(1), 23. <https://doi.org/10.1186/s42826-021-00101-4>
- Lee, H.J., Yang, S.J., 2019. Supplementation with nicotinamide riboside reduces brain inflammation and improves cognitive function in diabetic mice. *Int J Mol Sci*, 20(17), 4196. <https://doi.org/10.3390/ijms20174196>
- Mazher, K.M., Hassan, R.M., 2021. Histological, histochemical, and immunohistochemical studies of hippocampus in male New Zealand rabbits. *Anat Rec*, 304(2), 393-399. <https://doi.org/10.1002/ar.24418>
- Miki, T., Satriotomo, I., Li, H.P., Matsumoto, Y., Gu, H., Yokoyama, T., Lee,

- K.Y., Bedi, K.S., Takeuchi, Y., 2005. Application of the physical disector to the central nervous system: Estimation of the total number of neurons in subdivisions of the rat hippocampus. *Anat Sci Int*, 80(3), 153-162. <https://doi.org/10.1111/j.1447-073x.2005.00121.x>
- Mouri, M., Badireddy, M., 2023. Hyperglycemia - StatPearls - NCBI Bookshelf. StatPearls Publications.
- Pan, A., Gerriets, V., 2023. Etanercept. In *StatPearls*. StatPearls Publishing.
- Pang, C.C.C., Kiecker, C., O'Brien, J.T., Noble, W., Chang, R.C.C., 2019. Ammon's Horn 2 (CA2) of the hippocampus: A long-known region with a new potential role in neurodegeneration. *The Neuroscientist : a review journal bringing neurobiology and psychiatry*, 25(2), 167-180. <https://doi.org/10.1177/1073858418778747>
- Patesta, M. and Gartner, L., 2016. *A textbook of neuroanatomy*. 2nd Edition, Wiley-Blackwell, Hoboken.
- Rahman, S.U., Qadeer, A., Wu, Z., 2024. Role and potential mechanisms of nicotinamide mononucleotide in aging. *Aging Dis*, 15(2), 565-583. <https://doi.org/10.14336/AD.2023.0519-1>
- Rais, N., Ved, A., Ahmad, R., Parveen, K., Gautam, G.K., Bari, D.G., Shukla, K.S., Gaur, R., Singh, A.P., 2021. Model of streptozotocin-nicotinamide induced type 2 Diabetes: a comparative review. *Curr Diabetes Rev*, 18(8), e171121198001. <https://doi.org/10.2174/1573399818666211117123358>
- Sadeghi, A., Hami, J., Razavi, S., Esfandiary, E., Hejazi, Z., 2016. The effect of diabetes mellitus on apoptosis in hippocampus: Cellular and molecular aspects. *Int J Prev Med*, 7(1), 57. <https://doi.org/10.4103/2008-7802.178531>
- Sharma, G., Parihar, A., Talaiya, T., Dubey, K., Porwal, B., Parihar, M.S., 2020. Cognitive impairments in type 2 diabetes, risk factors and preventive strategies. *J Basic Clin Physiol Pharmacol*, 31(2). <https://doi.org/10.1515/jbcpp-2019-0105>
- Szkudelski, T., 2012. Streptozotocin-nicotinamide-induced diabetes in the rat. Characteristics of the experimental model. *Exp Biol Med*, 237(5), 481-490. <https://doi.org/10.1258/ebm.2012.011372>
- Tamaddonfard, E., Farshid, A.A., Asri-Rezaee, S., Javadi, S., Khosravi, V., Rahman, B., Mirfakhraee, Z., 2013. Crocin improved learning and memory impairments in streptozotocin-induced diabetic rats. *Iran J Basic Med Sci*, 16(1), 91-100.
- Taupin, P., 2007. Adult neural stem cells: The promise of the future. *Neuropsychiatr Dis Treat*, 3(6), 753-760. <https://doi.org/10.2147/ndt.s2289>
- Torres-Méndez, J.K., Niño-Narvi6n, J., Martinez-Santos, P., Diarte-A6n6zco, E.M.G., M6ndez-Lara, K.A., del Olmo, T.V., Rotllan, N., Juli6n, M.T., Alonso, N., Mauricio, D., Camacho, M., Mu6oz, J.P., Rossell, J., Julve, J., 2023. Nicotinamide prevents diabetic brain inflammation via NAD⁺-dependent deacetylation mechanisms. *Nutrients* 15(14), 3083. <https://doi.org/10.3390/nu15143083>
- Utkan, T., Yazir, Y., Karson, A., Bayramgurler, D., 2015. Etanercept Improves Cognitive Performance and Increases eNOS and BDNF Expression During Experimental Vascular Dementia in Streptozotocin- induced Diabetes. *Curr*

- Neurovasc Res*, 12(2), 135-146.
<https://doi.org/10.2174/1567202612666150311111340>
- Vlassara, H., Uribarri, J., 2014. Advanced glycation end products (AGE) and diabetes: Cause, effect, or both? *Curr Diab Rep*, 14(1).
<https://doi.org/10.1007/s11892-013-0453-1>
- WHO, 2023. World Health Organization Diabetes. World Health Organization.
- Ye, Q., Lin, Y.N., Xie, M.S., Yao, Y.H., Tang, S.M., Huang, Y., Wang, X.H., Zhu, Y.H., 2019. Effects of etanercept on the apoptosis of ganglion cells and expression of Fas, TNF- α , caspase-8 in the retina of diabetic rats. *Int J Ophthalmol*, 12(7). <https://doi.org/10.18240/ijo.2019.07.05>
- Yerra, V., Negi, G., Sharma, S.S., Kumar, A., 2013. Potential therapeutic effects of the simultaneous targeting of the Nrf2 and NF- κ B pathways in diabetic neuropathy. *Redox Biol*, 1(1), 394-397.
<https://doi.org/10.1016/j.redox.2013.07.005>
- Zelová, H., Hošek, J., 2013. TNF- α signalling and inflammation: Interactions between old acquaintances. *Inflamm Res*, 62(7), 641-651.
<https://doi.org/10.1007/s00011-013-0633-0>
- Zhang, Y.W., Zhang, J.Q., Liu, C., Wei, P., Zhang, X., Yuan, Q.Y., Yin, X.T., Wei, L.Q., Cui, J.G., Wang, J., 2015. Memory dysfunction in type 2 diabetes mellitus correlates with reduced hippocampal CA1 and subiculum volumes. *Chin Med J*, 128(4), 465-471. <https://doi.org/10.4103/0366-6999.151082>
- Zhao, F., Li, J., Mo, L., Tan, M., Zhang, T., Tang, Y., Zhao, Y., 2016. Changes in neurons and synapses in hippocampus of streptozotocin-induced Type 1 Diabetes rats: A stereological investigation. *Anat Rec (Hoboken)*, 299(9), 1174-1183. <https://doi.org/10.1002/ar.23344>