

## DAFTAR PUSTAKA

- Adams, H. P., Jr., Bendixen, B. H., Kappelle, L. J., Biller, J., Love, B. B., Gordon, D. L., & Marsh, E. E., 3rd. (1993). Classification of subtype of acute ischemic stroke. Definitions for use in a multicenter clinical trial. Toast. Trial of org 10172 in acute stroke treatment. *Stroke*, 24(1), 35-41. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/7678184>
- Adikesavan, G., Vinayagam, M. M., Abdulrahman, L. A., & Chinnasamy, T. (2013). (2)-epigallocatechin-gallate (egcg) stabilize the mitochondrial enzymes and inhibits the apoptosis in cigarette smoke-induced myocardial dysfunction in rats. *Mol Biol Rep*, 40, 6533-6545. doi:DOI 10.1007/s11033-013-2673-5
- Afonso, M. B., Rodrigues, P. M., Simao, A. L., Ofengeim, D., Carvalho, T., Amaral, J. D., Gaspar, M. M., Cortez-Pinto, H., Castro, R. E., Yuan, J., & Rodrigues, C. M. (2016). Activation of necroptosis in human and experimental cholestasis. *Cell Death Dis*, 7(9), e2390. doi:10.1038/cddis.2016.280
- Aladaileh, S. H., Hussein, O. E., Abukhalil, M. H., Saghir, S. A. M., Bin-Jumah, M., Alfwuaires, M. A., Germoush, M. O., Almaiman, A. A., & Mahmoud, A. M. (2019). Formononetin upregulates nrf2/ho-1 signaling and prevents oxidative stress, inflammation, and kidney injury in methotrexate-induced rats. *Antioxidants (Basel)*, 8(10). doi:10.3390/antiox8100430
- Allred, D. C., Harvey, J. M., Berardo, M., & Clark, G. M. (1998). Prognostic and predictive factors in breast cancer by immunohistochemical analysis. *Mod Pathol*, 11(2), 155-168. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/9504686>
- Alvarez-Sabin, J., & Roman, G. C. (2013). The role of citicoline in neuroprotection and neurorepair in ischemic stroke. *Brain Sci*, 3(3), 1395-1414. doi:10.3390/brainsci3031395
- Anilkumar, U., & Prehn, J. H. (2014). Anti-apoptotic bcl-2 family proteins in acute neural injury. *Front Cell Neurosci*, 8, 281. doi:10.3389/fncel.2014.00281
- Antonow-Schlorke, I., Ehrhardt, J., & Knieling, M. (2013). Modification of the ladder rung walking task-new options for analysis of skilled movements. *Stroke Res Treat*, 2013, 418627. doi:10.1155/2013/418627
- Aronowski, J., & Zhao, X. (2011). Molecular pathophysiology of cerebral hemorrhage: Secondary brain injury. *Stroke*, 42(6), 1781-1786. doi:10.1161/STROKEAHA.110.596718
- Ay, H. (2016). Classification of ischemic stroke. In J. C. Grotta, G. W. Albers, J. P. Broderick, S. E. Kasner, A. D. Mendelow, R. L. Sacco, & L. K. S. Wong (Eds.), *Stroke pathophysiology, diagnosis, and management* (6 ed., pp. 295-307). China: Elsevier Inc.
- Ayala, A., Munoz, M. F., & Arguelles, S. (2014). Lipid peroxidation: Production, metabolism, and signaling mechanisms of malondialdehyde and 4-hydroxy-2-nonenal. *Oxid Med Cell Longev*, 2014, 360438. doi:10.1155/2014/360438
- Bai, Y., Srinivasan, S., Spear, J., Chandran, K., Joseph, J., Kalyanaraman, B., & Avadhani, N. G. (2013). Oxidative stress induced mitochondrial protein kinase a mediates cytochrome c oxidase dysfunction. *PLoS One*, 8(10). doi:10.1371/journal.pone.0077129

- Baniulis, D., Yamashita, E., Zhang, H., Hasan, S., & Cramer, W. (2008). Structure–function of the cytochrome b6 f complex. *Photochemistry and Photobiology*, *84*, 1349-1358.
- Bayir, H., & Kagan, V. E. (2008). Bench-to bedside review: Mitochondrial injury, oxidative stress and apoptosis – there is nothing more practical than a good theory. *Critical Care*, *12*(206), 1-11. doi:10.1186/cc6779
- Berezcki, D., Jr., Balla, J., & Berezcki, D. (2018). Heme oxygenase-1: Clinical relevance in ischemic stroke. *Curr Pharm Des*, *24*(20), 2229-2235. doi:10.2174/1381612824666180717101104
- Bertheloot, D., & Latz, E. (2017). Hmgb1, il-1alpha, il-33 and s100 proteins: Dual-function alarmins. *Cell Mol Immunol*, *14*(1), 43-64. doi:10.1038/cmi.2016.34
- Biasibetti, R., Tramontina, A. C., Costa, A. P., Dutra, M. F., Quincozes-Santos, A., Nardin, P., Bernardi, C. L., Wartchow, K. M., Lunardi, P. S., & Goncalves, C. A. (2013). Green tea (-)epigallocatechin-3-gallate reverses oxidative stress and reduces acetylcholinesterase activity in a streptozotocin-induced model of dementia. *Behav Brain Res*, *236*(1), 186-193. doi:10.1016/j.bbr.2012.08.039
- Biller, J., Ruland, S., & J. Schneck, M. (2016). Ischemic cerebrovascular disease. In R. B. Daroff, J. Jankovic, J. C. Mazziota, & S. L. Pomeroy (Eds.), *Bradley's neurology in clinical practice seventh edition* (Vol. I, pp. 920-967). New York: Elsevier.
- Brough, D., Rothwell, N. J., & Allan, S. M. (2015). Interleukin-1 as a pharmacological target in acute brain injury. *Exp Physiol*, *100*(12), 1488-1494. doi:10.1113/EP085135
- Cai, J., Yang, J., & Jones, D. P. (1998). Mitochondrial control of apoptosis: The role of cytochrome c. *Biochim Biophys Acta*, *1366*(1-2), 139-149. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/9714780>
- Caplan, L. R. (2016). Introduction and perspective. In L. R. Caplan (Ed.), *Caplan's stroke: A clinical approach* (5 ed., pp. 1-18). United Kingdom: Cambridge University Press.
- Caplan, L. R., & Liebeskind, D. S. (2016). Pathology, anatomy, and pathophysiology of stroke. In L. R. Caplan (Ed.), *Caplan's stroke: A clinical approach* (5 ed., pp. 19-54). United Kingdom: Cambridge University Press.
- Castaneda, C. A., Cortes-Funes, H., Gomez, H. L., & Ciruelos, E. M. (2010). The phosphatidylinositol 3-kinase/akt signaling pathway in breast cancer. *Cancer Metastasis Rev*, *29*(4), 751-759. doi:10.1007/s10555-010-9261-0
- Chandan, C. (2013). Evaluation of immunoregulatory activities of green tea camelia sinensis in Freund's adjuvant induced arthritis model. *RRJPP*, *1*(2), 26-29.
- Chavez-Valdez, R., Martin, L. J., & Northington, F. J. (2012). Programmed necrosis: A prominent mechanism of cell death following neonatal brain injury. *Neurol Res Int*, *2012*, 257563. doi:10.1155/2012/257563
- Chen, J. Y., Yu, Y., Yuan, Y., Zhang, Y. J., Fan, X. P., Yuan, S. Y., Zhang, J. C., & Yao, S. L. (2017a). Enriched housing promotes post-stroke functional recovery through astrocytic hmgb1-il-6-mediated angiogenesis. *Cell Death Discov*, *3*, 17054. doi:10.1038/cddiscovery.2017.54

- Chen, S., Lv, X., Hu, B., Shao, Z., Wang, B., Ma, K., Lin, H., & Cui, M. (2017b). Ripk1/ripk3/mlkl-mediated necroptosis contributes to compression-induced rat nucleus pulposus cells death. *Apoptosis*, 22(5), 626-638. doi:10.1007/s10495-017-1358-2
- Chen, X., & Wang, K. (2016). The fate of medications evaluated for ischemic stroke pharmacotherapy over the period 1995-2015. *Acta Pharm Sin B*, 6(6), 522-530. doi:10.1016/j.apsb.2016.06.013
- Chen-Roetling, J., Song, W., Schipper, H. M., Regan, C. S., & Regan, R. F. (2015). Astrocyte overexpression of heme oxygenase-1 improves outcome after intracerebral hemorrhage. *Stroke*, 46(4), 1093-1098. doi:10.1161/STROKEAHA.115.008686
- Chi, W., Chen, H., Li, F., Zhu, Y., Yin, W., & Zhuo, Y. (2015). Hmgb1 promotes the activation of nlrp3 and caspase-8 inflammasomes via nf-kappab pathway in acute glaucoma. *J Neuroinflammation*, 12, 137. doi:10.1186/s12974-015-0360-2
- Chu, C., Deng, J., Man, Y., & Qu, Y. (2017). Green tea extracts epigallocatechin-3-gallate for different treatments. *Biomed Res Int*, 2017, 5615647. doi:10.1155/2017/5615647
- Chung, J. W., Park, S. H., Kim, N., Kim, W. J., Park, J. H., Ko, Y., Yang, M. H., Jang, M. S., Han, M. K., Jung, C., Kim, J. H., Oh, C. W., & Bae, H. J. (2014). Trial of org 10172 in acute stroke treatment (toast) classification and vascular territory of ischemic stroke lesions diagnosed by diffusion-weighted imaging. *J Am Heart Assoc*, 3(4). doi:10.1161/JAHA.114.001119
- Clark, W. M., Wechsler, L. R., Sabounjian, L. A., Schwiderski, U. E., & Citicoline Stroke Study, G. (2001). A phase iii randomized efficacy trial of 2000 mg citicoline in acute ischemic stroke patients. *Neurology*, 57(9), 1595-1602. doi:10.1212/wnl.57.9.1595
- Clark, W. M., Williams, B. J., Selzer, K. A., Zweifler, R. M., Sabounjian, L. A., & Gammans, R. E. (1999). A randomized efficacy trial of citicoline in patients with acute ischemic stroke. *Stroke*, 30(12), 2592-2597. doi:10.1161/01.str.30.12.2592
- Deb, P., Sharma, S., & Hassan, K. M. (2010). Pathophysiologic mechanisms of acute ischemic stroke: An overview with emphasis on therapeutic significance beyond thrombolysis. *Pathophysiology* 17, 197-218. doi:10.1016/j.pathophys.2009.12.001
- Denes, A., Pinteaux, E., Rothwell, N. J., & Allan, S. M. (2011). Interleukin-1 and stroke: Biomarker, harbinger of damage, and therapeutic target. *Cerebrovasc Dis*, 32(6), 517-527. doi:10.1159/000332205
- Deng, C., Cao, J., Han, J., Li, J., Shi, L., Zhaohun, Ninghua, & He, J. (2018). Liraglutide activates the nrf2/ho-1 antioxidant pathway and protects brain nerve cells against cerebral ischemia in diabetic rats. *Computational Intelligence and Neuroscience*, 2018, 1-8. doi:<https://doi.org/10.1155/2018/3094504>
- Dinarello, C. A. (2011). Interleukin-1 in the pathogenesis and treatment of inflammatory diseases. *Blood*, 117(14), 3720-3732. doi:10.1182/blood-2010-07-273417
- Dong, Y., Gu, Y., Huan, Y., Wang, Y., Liu, Y., Liu, M., Ding, F., Gu, X., & Wang, Y. (2013). Hmgb1 protein does not mediate the inflammatory response in spontaneous spinal cord regeneration: A hint for cns regeneration. *J Biol Chem*, 288(25), 18204-18218. doi:10.1074/jbc.M113.463810

- Duo, C. C., Gong, F. Y., He, X. Y., Li, Y. M., Wang, J., Zhang, J. P., & Gao, X. M. (2014). Soluble calreticulin induces tumor necrosis factor- $\alpha$  (tnf- $\alpha$ ) and interleukin (il)-6 production by macrophages through mitogen-activated protein kinase (mapk) and nfkappab signaling pathways. *Int J Mol Sci*, *15*(2), 2916-2928. doi:10.3390/ijms15022916
- Ellis, L. Z., Liu, W., Luo, Y., Okamoto, M., Qu, D., Dunn, J. H., & Fujita, M. (2011). Green tea polyphenol epigallocatechin-3-gallate suppresses melanoma growth by inhibiting inflammasome and il-1 $\beta$  secretion. *Biochem Biophys Res Commun*, *414*(3), 551-556. doi:10.1016/j.bbrc.2011.09.115
- Elmore, S. (2007). Apoptosis: A review of programmed cell death. *Toxicol Pathol*, *35*(4), 495-516. doi:10.1080/01926230701320337
- Feigin, V. L., & Krishnamurthi, R. V. (2016). Global burden of stroke. In J. C. Grotta, G. W. Albers, J. P. Broderick, S. E. Kasner, E. H. Lo, A. D. Mendelow, R. L. Sacco, & L. K. S. Wong (Eds.), *Stroke: Pathophysiology, diagnosis, and management* (pp. 165-206). China: Elsevier Inc.
- Feoktistova, M., & Leverkus, M. (2015). Programmed necrosis and necroptosis signalling. *FEBS J*, *282*(1), 19-31. doi:10.1111/febs.13120
- Festoff, B. W., Sajja, R. K., van Dreden, P., & Cucullo, L. (2016). Hmgb1 and thrombin mediate the blood-brain barrier dysfunction acting as biomarkers of neuroinflammation and progression to neurodegeneration in alzheimer's disease. *J Neuroinflammation*, *13*(1), 194. doi:10.1186/s12974-016-0670-z
- Fink, S. L., & Cookson, B. T. (2005). Apoptosis, pyroptosis, and necrosis: Mechanistic description of dead and dying eukaryotic cells. *Infect Immun*, *73*(4), 1907-1916. doi:10.1128/IAI.73.4.1907-1916.2005
- Flores-Cantú, H., Góngora-Rivera, F., Lavallo-González, F., Villarreal-Pérez, J. Z., Cantú-Sánchez, D., Anaya-Escamilla, A., Villarreal-Montemayor, H. J., & Villarreal-Velázquez, H. J. (2016). Tumor necrosis factor alpha, prognosis and stroke subtype etiology. *Medicina Universitaria*, *18*(73), 194-200. doi:10.1016/j.rmu.2016.10.007
- Fonken, L. K., Frank, M. G., Kitt, M. M., D'Angelo, H. M., Norden, D. M., Weber, M. D., Barrientos, R. M., Godbout, J. P., Watkins, L. R., & Maier, S. F. (2016). The alarmin hmgb1 mediates age-induced neuroinflammatory priming. *J Neurosci*, *36*(30), 7946-7956. doi:10.1523/JNEUROSCI.1161-16.2016
- Frank, M. G., Weber, M. D., Fonken, L. K., Hershman, S. A., Watkins, L. R., & Maier, S. F. (2016). The redox state of the alarmin hmgb1 is a pivotal factor in neuroinflammatory and microglial priming: A role for the nlrp3 inflammasome. *Brain Behav Immun*, *55*, 215-224. doi:10.1016/j.bbi.2015.10.009
- Frank, M. G., Weber, M. D., Watkins, L. R., & Maier, S. F. (2015). Stress sounds the alarmin: The role of the danger-associated molecular pattern hmgb1 in stress-induced neuroinflammatory priming. *Brain Behav Immun*, *48*, 1-7. doi:10.1016/j.bbi.2015.03.010
- Galluzzi, L., Kepp, O., Krautwald, S., Kroemer, G., & Linkermann, A. (2014). Molecular mechanisms of regulated necrosis. *Semin Cell Dev Biol*, *35*, 24-32. doi:10.1016/j.semdb.2014.02.006

- Gao, Z., Han, Y., Hu, Y., Wu, X., Wang, Y., Zhang, X., Fu, J., Zou, X., Zhang, J., Chen, X., Jose, P. A., Lu, X., & Zeng, C. (2016). Targeting ho-1 by epigallocatechin-3-gallate reduces contrast-induced renal injury via anti-oxidative stress and anti-inflammation pathways. *PLoS One*, *11*(2), e0149032. doi:10.1371/journal.pone.0149032
- Garrido, C., Galluzzi, L., Brunet, M., Puig, P. E., Didelot, C., & Kroemer, G. (2006). Mechanisms of cytochrome c release from mitochondria. *Cell Death Differ*, *13*(9), 1423-1433. doi:10.1038/sj.cdd.4401950
- Girard, J. P. (2007). A direct inhibitor of hmgb1 cytokine. *Chem Biol*, *14*(4), 345-347. doi:10.1016/j.chembiol.2007.04.001
- Gogvadze, V., Orrenius, S., & Zhivotovsky, B. (2006). Multiple pathways of cytochrome c release from mitochondria in apoptosis. *Biochim Biophys Acta*, *1757*(5-6), 639-647. doi:10.1016/j.bbabo.2006.03.016
- Goldstein, J. C., Muñoz-Pinedo, C., Ricci, J. E., Adams, S. R., Kelekar, A., Schuler, M., Tsien, R. Y., & Green, D. R. (2005). Cytochrome c is released in a single step during apoptosis. *Cell Death and Differentiation*, *12*(5), 453-462. doi:10.1038/sj.cdd.4401596
- Greenhalgh, A. D., Brough, D., Robinson, E. M., Girard, S., Rothwell, N. J., & Allan, S. M. (2012). Interleukin-1 receptor antagonist is beneficial after subarachnoid haemorrhage in rat by blocking haem-driven inflammatory pathology. *Dis Model Mech*, *5*(6), 823-833. doi:10.1242/dmm.008557
- Gumay, A. R., Bakri, S., & Utomo, A. W. (2017). The effect of green tea leaf extract on spatial memory function and superoxyde dismutase enzyme activity in mice with d-galactose induced dementia. *Sains Medika*, *8*(1), 8-14.
- Gundimeda, U., McNeill, T. H., Fan, T. K., Deng, R., Rayudu, D., Chen, Z., Cadenas, E., & Gopalakrishna, R. (2014). Green tea catechins potentiate the neurotogenic action of brain-derived neurotrophic factor: Role of 67-kda laminin receptor and hydrogen peroxide. *Biochem Biophys Res Commun*, *445*(1), 218-224. doi:10.1016/j.bbrc.2014.01.166
- Guo, Y., Li, P., Guo, Q., Shang, K., Yan, D., Du, S., & Lu, Y. (2013). Pathophysiology and biomarkers in acute ischemic stroke – a review. *Tropical Journal of Pharmaceutical Research*, *12*(6), 1097-1105.
- Guo, Y., Li, P., Guo, Q., Shang, K., Yan, D., Du, S., & Lu, Y. (2014). Pathophysiology and biomarkers in acute ischemic stroke – a review. *Tropical Journal of Pharmaceutical Research*, *12*(6). doi:10.4314/tjpr.v12i6.35
- Haile, Y., Simmen, K. C., Pasichnyk, D., Touret, N., Simmen, T., Lu, J. Q., Bleackley, R. C., & Giuliani, F. (2011). Granule-derived granzyme b mediates the vulnerability of human neurons to t cell-induced neurotoxicity. *J Immunol*, *187*(9), 4861-4872. doi:10.4049/jimmunol.1100943
- Han, C. H., Guan, Z. B., Zhang, P. X., Fang, H. L., Li, L., Zhang, H. M., Zhou, F. J., Mao, Y. F., & Liu, W. W. (2018). Oxidative stress induced necroptosis activation is involved in the pathogenesis of hyperoxic acute lung injury. *Biochemical and Biophysical Research Communications* *495*, 2178-2183. doi:<https://doi.org/10.1016/j.bbrc.2017.12.100>

- Hayakawa, K., Qiu, J., & Lo, E. H. (2010). Biphasic actions of hmgb1 signaling in inflammation and recovery after stroke. *Ann N Y Acad Sci*, *1207*, 50-57. doi:10.1111/j.1749-6632.2010.05728.x
- He, F., Zhang, Y., Chen, S., Ye, B., Chen, J., & Li, C. (2018). [effect of egcg on oxidative stress and nrf2/ho-1 pathway in neurons exposed to oxygen-glucose deprivation/reperfusion]. *Zhong Nan Da Xue Xue Bao Yi Xue Ban*, *43*(10), 1041-1047. doi:10.11817/j.issn.1672-7347.2018.10.001
- Heiss, W.-D. (2016). The pathophysiology of ischemic stroke studied by radionuclide imaging. *J Neurol Neuromed*, *1*(8), 22-28.
- Herges, K., Millward, J. M., Hentschel, N., Infante-Duarte, C., Aktas, O., & Zipp, F. (2011). Neuroprotective effect of combination therapy of glatiramer acetate and epigallocatechin-3-gallate in neuroinflammation. *PLoS One*, *6*(10), e25456. doi:10.1371/journal.pone.0025456
- Hong, J., Lu, H., Meng, X., Ryu, J. H., Hara, Y., & Yang, C. S. (2002). Stability, cellular uptake, biotransformation, and efflux of tea polyphenol (-)-epigallocatechin-3-gallate in ht-29 human colon adenocarcinoma cells. *Cancer Res*, *62*(24), 7241-7246. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/12499265>
- Hossman, K. A., & Heiss, W.-D. (2014). Neuropathology and patophysiology of stroke. In M. Brainin & W.-D. Heiss (Eds.), *Textbook of stroke medicine* (pp. 1-10). London: Cambridge.
- Howard, G., & Howard, V. J. (2016). Stroke disparities. In J. C. Grotta, G. W. Albers, J. P. Broderick, S. E. Kasner, E. H. Lo, A. D. Mendelow, R. L. Sacco, & L. K. S. Wong (Eds.), *Stroke: Pathophysiology, diagnosis, and management* (6 ed., pp. 207-216). China: Elsevier Inc.
- Hua, Y., Keep, R. F., Hoff, J. T., & Xi, G. (2007). Brain injury after intracerebral hemorrhage: The role of thrombin and iron. *Stroke*, *38*(2 Suppl), 759-762. doi:10.1161/01.STR.0000247868.97078.10
- Huang, J. M., Hu, J., Chen, N., & Hu, M. L. (2013). Relationship between plasma high-mobility group box-1 levels and clinical outcomes of ischemic stroke. *J Crit Care*, *28*(5), 792-797. doi:10.1016/j.jcrc.2012.10.003
- indonesia, K. K. R. (2018). *Hasil utama riskesdas 2018*. Jakarta: Badan Penelitian dan pengembangan kesehatan.
- Indran, I. R., Tufo, G., Pervaiz, S., & Brenner, C. (2011). Recent advances in apoptosis, mitochondria and drug resistance in cancer cells. *Biochim Biophys Acta*, *1807*(6), 735-745. doi:10.1016/j.bbabi.2011.03.010
- Jafari Anarkooli, I., Sankian, M., Ahmadpour, S., Varasteh, A. R., & Haghiri, H. (2008). Evaluation of bcl-2 family gene expression and caspase-3 activity in hippocampus stz-induced diabetic rats. *Exp Diabetes Res*, *2008*, 638467. doi:10.1155/2008/638467
- Jauch, E. C., Saver, J. L., Adams, H. P., Jr., Bruno, A., Connors, J. J., Demaerschalk, B. M., Khatri, P., McMullan, P. W., Jr., Qureshi, A. I., Rosenfield, K., Scott, P. A., Summers, D. R., Wang, D. Z., Wintermark, M., Yonas, H., American Heart Association Stroke, C., Council on Cardiovascular, N., Council on Peripheral Vascular, D., & Council on Clinical, C. (2013). Guidelines for the early management of patients with acute ischemic stroke: A

- guideline for healthcare professionals from the american heart association/american stroke association. *Stroke*, 44(3), 870-947. doi:10.1161/STR.0b013e318284056a
- Jiang, J., Mo, Z. C., Yin, K., Zhao, G. J., Lv, Y. C., Ouyang, X. P., Jiang, Z. S., Fu, Y., & Tang, C. K. (2012). Epigallocatechin-3-gallate prevents tnf-alpha-induced nf-kappab activation thereby upregulating abca1 via the nrf2/keap1 pathway in macrophage foam cells. *Int J Mol Med*, 29(5), 946-956. doi:10.3892/ijmm.2012.924
- Kadenbach, B., Arnold, S., Lee, I., & Hüttemann, M. (2004). The possible role of cytochrome c oxidase in stress-induced apoptosis and degenerative diseases. *Biochimica et Biophysica Acta (BBA) - Bioenergetics*, 1655, 400-408. doi:10.1016/j.bbabi.2003.06.005
- Kadenbach, B., Ramzan, R., & Vogt, S. (2009). Degenerative diseases, oxidative stress and cytochrome c oxidase function. *Trends Mol Med*, 15(4), 139-147. doi:10.1016/j.molmed.2009.02.004
- Kaiser, S., Frase, S., Selzner, L., Lieberum, J. L., Wollborn, J., Niesen, W. D., Foit, N. A., Heiland, D. H., & Schallner, N. (2019). Neuroprotection after hemorrhagic stroke depends on cerebral heme oxygenase-1. *Antioxidants (Basel)*, 8(10). doi:10.3390/antiox8100496
- Kataoka, H., Kono, H., Patel, Z., Kimura, Y., & Rock, K. L. (2014). Evaluation of the contribution of multiple DAMPs and DAMP receptors in cell death-induced sterile inflammatory responses. *PLoS One*, 9(8), e104741. doi:10.1371/journal.pone.0104741
- Keyel, P. A. (2014). How is inflammation initiated? Individual influences of il-1, il-18 and hmgb1. *Cytokine*, 69(1), 136-145. doi:10.1016/j.cyto.2014.03.007
- Kim, H. S., Montana, V., Jang, H. J., Parpura, V., & Kim, J. A. (2013a). Epigallocatechin gallate (EGCG) stimulates autophagy in vascular endothelial cells: A potential role for reducing lipid accumulation. *J Biol Chem*, 288(31), 22693-22705. doi:10.1074/jbc.M113.477505
- Kim, H. S., Quon, M. J., & Kim, J. A. (2014). New insights into the mechanisms of polyphenols beyond antioxidant properties; lessons from the green tea polyphenol, epigallocatechin 3-gallate. *Redox Biol*, 2, 187-195. doi:10.1016/j.redox.2013.12.022
- Kim, S. J., Eum, H. A., Billiar, T. R., & Lee, S. M. (2013b). Role of heme oxygenase 1 in tnf/tnf receptor-mediated apoptosis after hepatic ischemia/reperfusion in rats. *Shock*, 39(4), 380-388. doi:10.1097/SHK.0b013e31828a8b7f
- Kim, Y., & Lee, J. (2016). Effect of (-)-epigallocatechin-3-gallate on anti-inflammatory response via heme oxygenase-1 induction during adipocyte-macrophage interactions. *Food Sci Biotechnol*, 25(6), 1767-1773. doi:10.1007/s10068-016-0269-2
- King, M. D., Alleyne, C. H., Jr., & Dhandapani, K. M. (2013). Tnf-alpha receptor antagonist, r-7050, improves neurological outcomes following intracerebral hemorrhage in mice. *Neurosci Lett*, 542, 92-96. doi:10.1016/j.neulet.2013.02.051
- Kishimoto, Y., Kondo, K., & Momiyama, Y. (2019). The protective role of heme oxygenase-1 in atherosclerotic diseases. *Int J Mol Sci*, 20(15). doi:10.3390/ijms20153628
- Kleindorfer, D., Lindsell, C. J., Brass, L., Koroshetz, W., & Broderick, J. P. (2008). National US estimates of recombinant tissue plasminogen activator use: ICD-9 codes substantially underestimate. *Stroke*, 39(3), 924-928. doi:10.1161/STROKEAHA.107.490375

- Ko, F. C., Rubenstein, W. J., Lee, E. J., Siu, A. L., & Sean Morrison, R. (2017). Tnf-alpha and stnf-rii are associated with pain following hip fracture surgery in older adults. *Pain Med*. doi:10.1093/pm/pnx085
- Ko, Y., Lee, S., Chung, J. W., Han, M. K., Park, J. M., Kang, K., Park, T. H., Park, S. S., Cho, Y. J., Hong, K. S., Lee, K. B., Lee, J., Kim, D. E., Kim, D. H., Cha, J. K., Kim, J. T., Choi, J. C., Shin, D. I., Lee, J. S., Lee, J., Yu, K. H., Lee, B. C., & Bae, H. J. (2014). Mri-based algorithm for acute ischemic stroke subtype classification. *J Stroke*, *16*(3), 161-172. doi:10.5853/jos.2014.16.3.161
- Kumar, A., Aakriti, & Gupta, V. (2016a). A review on animal models of stroke: An update. *Brain Res Bull*, *122*, 35-44. doi:10.1016/j.brainresbull.2016.02.016
- Kumar, P., Kumar, A., Misra, S., Sagar, R., Faruq, M., Suroliya, V., Vivekanandhan, S., Srivastava, A. K., & Prasad, K. (2016b). Tumor necrosis factor-alpha (- 308g/a, + 488g/a, - 857c/t and -1031 t/c) gene polymorphisms and risk of ischemic stroke in north indian population: A hospital based case-control study. *Meta Gene*, *7*, 34-39. doi:10.1016/j.mgene.2015.11.003
- Kuo, P.-L., & Lin, C.-C. (2003). Green tea constituent (-)-epigallocatechin-3-gallate inhibits hep g2 cell proliferation and induces apoptosis through p53-dependent and fas-mediated pathways. *J Biomed Sci*. doi:10.1159/000068711
- Kweon, M. H., Adhami, V. M., Lee, J. S., & Mukhtar, H. (2006). Constitutive overexpression of nrf2-dependent heme oxygenase-1 in a549 cells contributes to resistance to apoptosis induced by epigallocatechin 3-gallate. *J Biol Chem*, *281*(44), 33761-33772. doi:10.1074/jbc.M604748200
- Lamson, D. W., & Brignall, M. S. (1999). Antioxidants in cancer therapy; their actions and interactions with oncologic therapies. *Altern Med Rev*, *4*(5), 304-329. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/10559547>
- Land, W. G. (2015). The role of damage-associated molecular patterns (damps) in human diseases: Part ii: Damps as diagnostics, prognostics and therapeutics in clinical medicine. *Sultan Qaboos Univ Med J*, *15*(2), e157-170. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/26052447>
- Lang, D., Reuter, S., Buzescu, T., August, C., & Heidenreich, S. (2005). Heme-induced heme oxygenase-1 (ho-1) in human monocytes inhibits apoptosis despite caspase-3 up-regulation. *Int Immunol*, *17*(2), 155-165. doi:10.1093/intimm/dxh196
- LeBlanc, R. H., 3rd, Chen, R., Selim, M. H., & Hanafy, K. A. (2016). Heme oxygenase-1-mediated neuroprotection in subarachnoid hemorrhage via intracerebroventricular deferoxamine. *J Neuroinflammation*, *13*(1), 244. doi:10.1186/s12974-016-0709-1
- Lee, H. C., & Wei, Y. H. (2005). Mitochondrial biogenesis and mitochondrial DNA maintenance of mammalian cells under oxidative stress. *Int J Biochem Cell Biol*, *37*(4), 822-834. doi:10.1016/j.biocel.2004.09.010
- Lei, C., Lin, S., Zhang, C., Tao, W., Dong, W., Hao, Z., Liu, M., & Wu, B. (2013a). Effects of high-mobility group box1 on cerebral angiogenesis and neurogenesis after intracerebral hemorrhage. *Neuroscience*, *229*, 12-19. doi:10.1016/j.neuroscience.2012.10.054



- Lei, C., Lin, S., Zhang, C., Tao, W., Dong, W., Hao, Z., Liu, M., & Wu, B. (2013b). High-mobility group box1 protein promotes neuroinflammation after intracerebral hemorrhage in rats. *Neuroscience*, 228, 190-199. doi:10.1016/j.neuroscience.2012.10.023
- Lei, C., Wu, B., Cao, T., Zhang, S., & Liu, M. (2015a). Activation of the high-mobility group box 1 protein-receptor for advanced glycation end-products signaling pathway in rats during neurogenesis after intracerebral hemorrhage. *Stroke*, 46(2), 500-506. doi:10.1161/STROKEAHA.114.006825
- Lei, C., Zhang, S., Cao, T., Tao, W., Liu, M., & Wu, B. (2015b). Hmgb1 may act via rage to promote angiogenesis in the later phase after intracerebral hemorrhage. *Neuroscience*, 295, 39-47. doi:10.1016/j.neuroscience.2015.03.032
- Leu, J. G., Lin, C. Y., Jian, J. H., Shih, C. Y., & Liang, Y. J. (2013). Epigallocatechin-3-gallate combined with alpha lipoic acid attenuates high glucose-induced receptor for advanced glycation end products (rage) expression in human embryonic kidney cells. *An Acad Bras Cienc*, 85(2), 745-752. doi:10.1590/S0001-37652013005000023
- Levine, S. R. (2004). Pathophysiology and therapeutic targets for ischemic stroke. *Clin Cardiol*, 27(5 Suppl 2), II12-24. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/15188932>
- Lewen, A., Fujimura, M., Sugawara, T., Matz, P., Copin, J. C., & Chan, P. H. (2001). Oxidative stress-dependent release of mitochondrial cytochrome c after traumatic brain injury. *J Cereb Blood Flow Metab*, 21(8), 914-920. doi:10.1097/00004647-200108000-00003
- Li, W., Zhu, S., Li, J., Assa, A., Jundoria, A., Xu, J., Fan, S., Eissa, N. T., Tracey, K. J., Sama, A. E., & Wang, H. (2011). Egcg stimulates autophagy and reduces cytoplasmic hmgb1 levels in endotoxin-stimulated macrophages. *Biochem Pharmacol*, 81(9), 1152-1163. doi:10.1016/j.bcp.2011.02.015
- Li, X., Song, G., Jin, Y., Liu, H., Li, C., Han, C., & Ren, S. (2014). Higher level of heme oxygenase-1 in patients with stroke than tia. *Journal of Thoracic Disease*, 6(6), 772-777. doi: <http://dx.doi.org/10.3978/j.issn.2072-1439.2014.06.28>
- Lim, S. H., Kim, H. S., Kim, Y. K., Kim, T. M., Im, S., Chung, M. E., Hong, B. Y., Ko, Y. J., Kim, H. W., & Lee, J. I. (2010). The functional effect of epigallocatechin gallate on ischemic stroke in rats. *Acta Neurobiol Exp (Wars)*, 70(1), 40-46. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/20407485>
- Linkermann, A., Brasen, J. H., Darding, M., Jin, M. K., Sanz, A. B., Heller, J. O., De Zen, F., Weinlich, R., Ortiz, A., Walczak, H., Weinberg, J. M., Green, D. R., Kunzendorf, U., & Krautwald, S. (2013). Two independent pathways of regulated necrosis mediate ischemia-reperfusion injury. *Proc Natl Acad Sci U S A*, 110(29), 12024-12029. doi:10.1073/pnas.1305538110
- Linkermann, A., & Green, D. R. (2014). Necroptosis. *N Engl J Med*, 370(5), 455-465. doi:10.1056/NEJMra1310050
- Liu, C., Zhu, C., Wang, G., Xu, R., & Zhu, Y. (2015). Higenamine regulates nrf2-ho-1-hmgb1 axis and attenuates intestinal ischemia-reperfusion injury in mice. *Inflamm Res*, 64(6), 395-403. doi:10.1007/s00011-015-0817-x
- Liu, K., Ding, L., Li, Y., Yang, H., Zhao, C., Lei, Y., Han, S., Tao, W., Miao, D., Steller, H., Welsh, M. J., & Liu, L. (2014a). Neuronal necrosis is regulated by a conserved chromatin-

- modifying cascade. *Proc Natl Acad Sci U S A*, 111(38), 13960-13965. doi:10.1073/pnas.1413644111
- Liu, L., Ju, Y., Wang, J., & Zhou, R. (2017). Epigallocatechin-3-gallate promotes apoptosis and reversal of multidrug resistance in esophageal cancer cells. *Pathol Res Pract*, 213(10), 1242-1250. doi:10.1016/j.prp.2017.09.006
- Liu, L., Lai, C. Q., Nie, L., Ordovas, J., Band, M., Moser, L., & Meydani, M. (2008). The modulation of endothelial cell gene expression by green tea polyphenol-egcg. *Mol Nutr Food Res*, 52(10), 1182-1192. doi:10.1002/mnfr.200700499
- Liu, P.-L., Liu, J.-T., Kuo, H.-F., Chong, I.-W., & Hsieh, C.-C. (2014b). Research article: Epigallocatechin gallate attenuates proliferation and oxidative stress in human vascular smooth muscle cells induced by interleukin-1? Via heme oxygenase-1. *Mediators of Inflammation*, 2014, 1-8. doi:<http://dx.doi.org/10.1155/2014/523684>
- Lu, Y. P., Lou, Y. R., Xie, J. G., Peng, Q. Y., Liao, J., Yang, C. S., Huang, M. T., & Conney, A. H. (2002). Topical applications of caffeine or (-)-epigallocatechin gallate (egcg) inhibit carcinogenesis and selectively increase apoptosis in uvb-induced skin tumors in mice. *Proc Natl Acad Sci U S A*, 99(19), 12455-12460. doi:10.1073/pnas.182429899
- Luo, Y., Li, S. J., Yang, J., Qiu, Y. Z., & Chen, F. P. (2013). Hmgb1 induces an inflammatory response in endothelial cells via the rage-dependent endoplasmic reticulum stress pathway. *Biochem Biophys Res Commun*, 438(4), 732-738. doi:10.1016/j.bbrc.2013.07.098
- Lv, C., Maharjan, S., Wang, Q., Sun, Y., Han, X., Wang, S., Mao, Z., Xin, Y., & Zhang, B. (2017). Alpha-lipoic acid promotes neurological recovery after ischemic stroke by activating the nrf2/ho-1 pathway to attenuate oxidative damage. *Cell Physiol Biochem*, 43(3), 1273-1287. doi:10.1159/000481840
- Machin, A., & Hamdan, M. (2018). Factors associated with onset to hospital delay among stroke patients in the emergency department. *Indian Journal of Public Health Research & Development*, 9, 101-105.
- Mahler, A., Mandel, S., Lorenz, M., Ruegg, U., Wanker, E. E., Boschmann, M., & Paul, F. (2013). Epigallocatechin-3-gallate: A useful, effective and safe clinical approach for targeted prevention and individualised treatment of neurological diseases? *EPMA J*, 4(1), 5. doi:10.1186/1878-5085-4-5
- Mardookhi, J., Bigdeli, M. R., & Khaksar, S. (2016). The effect of pre-treatment with olive oil on tnfr1/nf- kb inflammatory pathway in rat ischemic stroke model. *Physiol Pharmacol* 20, 246-255.
- Millogo, A., Ki-Zerbo, G. A., Traore, W., Sawadogo, A. B., Ouedraogo, I., & Peghini, M. (2000). [toxoplasma serology in hiv infected patients and suspected cerebral toxoplasmosis at the central hospital of bobo-dioulasso (burkina faso)]. *Bull Soc Pathol Exot*, 93(1), 17-19. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/10774487>
- Min, H., Hong, J., Cho, I. H., Jang, Y. H., Lee, H., Kim, D., Yu, S. W., Lee, S., & Lee, S. J. (2015). Tlr2-induced astrocyte mmp9 activation compromises the blood brain barrier and exacerbates intracerebral hemorrhage in animal models. *Mol Brain*, 8, 23. doi:10.1186/s13041-015-0116-z

- Moriwaki, K., & Chan, F. K. (2013). Rip3: A molecular switch for necrosis and inflammation. *Genes Dev*, 27(15), 1640-1649. doi:10.1101/gad.223321.113
- Mracsko, E., & Veltkamp, R. (2014). Neuroinflammation after intracerebral hemorrhage. *Front Cell Neurosci*, 8, 388. doi:10.3389/fncel.2014.00388
- Muhammad, S., Barakat, W., Stoyanov, S., Murikinati, S., Yang, H., Tracey, K. J., Bendszus, M., Rossetti, G., Nawroth, P. P., Bierhaus, A., & Schwaninger, M. (2008). The hmgb1 receptor rage mediates ischemic brain damage. *J Neurosci*, 28(46), 12023-12031. doi:10.1523/JNEUROSCI.2435-08.2008
- Murray, K. N., Parry-Jones, A. R., & Allan, S. M. (2015). Interleukin-1 and acute brain injury. *Front Cell Neurosci*, 9, 18. doi:10.3389/fncel.2015.00018
- Murray, P. S., & Holmes, P. V. (2011). An overview of brain-derived neurotrophic factor and implications for excitotoxic vulnerability in the hippocampus. *Int J Pept*, 2011, 654085. doi:10.1155/2011/654085
- Naranmandura, H., Chen, X., Tanaka, M., Wang, W. W., Rehman, K., Xu, S., Chen, Z., Chen, S. Q., & Suzuki, N. (2012). Release of apoptotic cytochrome c from mitochondria by dimethylarsinous acid occurs through interaction with voltage-dependent anion channel in vitro. *Toxicol Sci*, 128(1), 137-146. doi:10.1093/toxsci/kfs154
- Newton, K., Dugger, D., Maltzman, A., Greve, J., Hedehus, M., Martin-McNulty, B., Carano, RAD, Cao, T., van Bruggen, N., Bernstein, L., Lee, W., Wu, X., DeVoss, J., & Zhang, J. (2016). Ripk3 deficiency or catalytically inactive ripk1 provides greater benefit than mlkl deficiency in mouse models of inflammation and tissue injury. *Cell Death and Differentiation* 23, 1565–1576. doi:doi:10.1038/cdd.2016.46
- Newton, K., Dugger, D. L., Wickliffe, K. E., Kapoor, N., de Almagro, M. C., Vucic, D., Komuves, L., Ferrando, R. E., French, D. M., Webster, J., Roose-Girma, M., Warming, S., & Dixit, V. M. (2014). Activity of protein kinase ripk3 determines whether cells die by necroptosis or apoptosis. *Science*, 343(6177), 1357-1360. doi:10.1126/science.1249361
- Nikoletopoulou, V., Markaki, M., Palikaras, K., & Tavernarakis, N. (2013). Crosstalk between apoptosis, necrosis and autophagy. *Biochim Biophys Acta*, 1833(12), 3448-3459. doi:10.1016/j.bbamcr.2013.06.001
- Nogusa, S., Thapa, R. J., Dillon, C. P., Liedmann, S., Oguin, T. H., 3rd, Ingram, J. P., Rodriguez, D. A., Kosoff, R., Sharma, S., Sturm, O., Verbist, K., Gough, P. J., Bertin, J., Hartmann, B. M., Sealfon, S. C., Kaiser, W. J., Mocarski, E. S., Lopez, C. B., Thomas, P. G., Oberst, A., Green, D. R., & Balachandran, S. (2016). Ripk3 activates parallel pathways of mlkl-driven necroptosis and fadd-mediated apoptosis to protect against influenza a virus. *Cell Host Microbe*, 20(1), 13-24. doi:10.1016/j.chom.2016.05.011
- Oates, C. P., Naylor, A. R., Hartshorne, T., Charles, S. M., Fail, T., Humphries, K., Aslam, M., & Khodabakhsh, P. (2009). Joint recommendations for reporting carotid ultrasound investigations in the united kingdom. *Eur J Vasc Endovasc Surg*, 37(3), 251-261. doi:10.1016/j.ejvs.2008.10.015
- oliviero, F., Sfriso, P., Scanu, A., Fiocco, U., Spinella, P., & Punzi, L. (2013). Epigalactocathenin-3-gallate reduced inflammation induced by calcium pyrophosphate crystals in vitro. *Frontier in Pharmacology*, 4(51), 1-7.

- Olmos, G., & Llado, J. (2014). Tumor necrosis factor alpha: A link between neuroinflammation and excitotoxicity. *Mediators Inflamm*, 2014, 861231. doi:10.1155/2014/861231
- Ou, L., Lin, S., Song, B., Liu, J., Lai, R., & Shao, L. (2017). The mechanisms of graphene-based materials-induced programmed cell death: A review of apoptosis, autophagy, and programmed necrosis. *Int J Nanomedicine*, 12, 6633-6646. doi:10.2147/IJN.S140526
- Ouyang, L., Shi, Z., Zhao, S., Wang, F. T., Zhou, T. T., Liu, B., & Bao, J. K. (2012). Programmed cell death pathways in cancer: A review of apoptosis, autophagy and programmed necrosis. *Cell Prolif*, 45(6), 487-498. doi:10.1111/j.1365-2184.2012.00845.x
- Pan, W., & Kastin, A. J. (2007). Tumor necrosis factor and stroke: Role of the blood-brain barrier. *Prog Neurobiol*, 83(6), 363-374. doi:10.1016/j.pneurobio.2007.07.008
- Parameswaran, N., & Patial, S. (2010). Tumor necrosis factor-alpha signaling in macrophages. *Crit Rev Eukaryot Gene Expr*, 20(2), 87-103. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/21133840>
- Park, S. Y., Jung, C. H., Song, B., Park, O. J., & Kim, Y. M. (2013). Pro-apoptotic and migration-suppressing potential of egcg, and the involvement of ampk in the p53-mediated modulation of vegf and mmp-9 expression. *Oncol Lett*, 6(5), 1346-1350. doi:10.3892/ol.2013.1533
- Parkkinen, S., Ortega, F. J., Kuptsova, K., Huttunen, J., Tarkka, I., & Jolkkonen, J. (2013). Gait impairment in a rat model of focal cerebral ischemia. *Stroke Res Treat*, 2013, 410972. doi:10.1155/2013/410972
- Parrish, A. B., Freel, C. D., & Kornbluth, S. (2013). Cellular mechanisms controlling caspase activation and function. *Cold Spring Harb Perspect Biol*, 5(6). doi:10.1101/cshperspect.a008672
- Plathosyn, O., Zhang, S., McDaniel, S., & Yuan, J. X. J. (2002). Cytochrome c activates k channels before inducing apoptosis *Am J Physiol Cell Physiol* 283, C1298—C1305.
- Portt, L., Norman, G., Clapp, C., Greenwood, M., & Greenwood, M. T. (2011). Anti-apoptosis and cell survival: A review. *Biochim Biophys Acta*, 1813(1), 238-259. doi:10.1016/j.bbamcr.2010.10.010
- Ran, Z. H., Xu, Q., Tong, J. L., & Xiao, S. D. (2007). Apoptotic effect of epigallocatechin-3-gallate on the human gastric cancer cell line mkn45 via activation of the mitochondrial pathway. *World J Gastroenterol*, 13(31), 4255-4259. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/17696257>
- Rasoolijazi, H., Joghataie, M. T., Roghani, M., & Nobakht, M. (2007). The beneficial effect of (-)-epigallocatechin-3-gallate in an experimental model of alzheimer's disease in rat: A behavioral analysis. *Iran Biomed J*, 11(4), 237-243. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/18392085>
- Riteau, N., Gasse, P., Fauconnier, L., Gombault, A., Couegnat, M., Fick, L., Kanellopoulos, J., Quesniaux, V. F., Marchand-Adam, S., Crestani, B., Ryffel, B., & Couillin, I. (2010). Extracellular atp is a danger signal activating p2x7 receptor in lung inflammation and fibrosis. *Am J Respir Crit Care Med*, 182(6), 774-783. doi:10.1164/rccm.201003-0359OC

- Rodrigo, R. n., Fernández-Gajardo, R., Gutiérrez, R., Matamala, J. M., Carrasco, R., Miranda-Merchak, A. s., & Feuerhake, W. (2013). Oxidative stress and pathophysiology of ischemic stroke: Novel therapeutic opportunities. *CNS & Neurological Disorders - Drug Targets*, *12*, 000-000.
- Rodrigues, J., Assuncao, M., Lukoyanov, N., Cardoso, A., Carvalho, F., & Andrade, J. P. (2013). Protective effects of a catechin-rich extract on the hippocampal formation and spatial memory in aging rats. *Behav Brain Res*, *246*, 94-102. doi:10.1016/j.bbr.2013.02.040
- Roghani, M., Joghataie, M. T., Jalali, M. R., & Baluchnejadmojarad, T. (2006). Time course of changes in passive avoidance and y-maze performance in male diabetic rats. *Iranian Biomedical Journal* *10*(2), 99-104
- Ropper, A. H., Samuel, M. A., & Klein, J. P. (2014). *Cerebrovascular disease* (10 ed.).
- Rosin, D. L., & Okusa, M. D. (2011). Dangers within: Damp responses to damage and cell death in kidney disease. *J Am Soc Nephrol*, *22*(3), 416-425. doi:10.1681/ASN.2010040430
- Sahuquillo, J., Poca, M. A., & Amorós, S. (2001). Current aspects of pathophysiology and cell dysfunction after severe head injury. *Curr Pharm Des*, *7*(15), 1475-1503. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/11562294>
- Saikumar, P., & Venkatachalam, M. A. (2009). Apoptosis and cell death. In *Basic concepts of molecular pathology* (pp. 29-40).
- Schmidt, R. L., & Lenz, L. L. (2012). Distinct licensing of il-18 and il-1beta secretion in response to nlrp3 inflammasome activation. *PLoS One*, *7*(9), e45186. doi:10.1371/journal.pone.0045186
- Secades, J. J., Alvarez-Sabin, J., Castillo, J., Diez-Tejedor, E., Martínez-Vila, E., Rios, J., & Oudovenko, N. (2016). Citicoline for acute ischemic stroke: A systematic review and formal meta-analysis of randomized, double-blind, and placebo-controlled trials. *J Stroke Cerebrovasc Dis*, *25*(8), 1984-1996. doi:10.1016/j.jstrokecerebrovasdis.2016.04.010
- Sen, T., Moulik, S., Dutta, A., Choudhury, P. R., Banerji, A., Das, S., Roy, M., & Chatterjee, A. (2009). Multifunctional effect of epigallocatechin-3-gallate (egcg) in downregulation of gelatinase-a (mmp-2) in human breast cancer cell line mcf-7. *Life Sciences*, *84*(7-8), 194-204. doi:10.1016/j.lfs.2008.11.018
- Shearer, W. T., Reuben, J. M., Mullington, J. M., Price, N. J., Lee, B. N., Smith, E. O., Szuba, M. P., Van Dongen, H. P., & Dinges, D. F. (2001). Soluble tnf-alpha receptor 1 and il-6 plasma levels in humans subjected to the sleep deprivation model of spaceflight. *J Allergy Clin Immunol*, *107*(1), 165-170. doi:10.1067/mai.2001.112270
- Shimada, S., Shinzawa-Itoh, K., Baba, J., Aoe, S., Shimada, A., Yamashita, E., Kang, J., Tateno, M., Yoshikawa, S., & Tsukihara, T. (2017a). Complex structure of cytochrome c-cytochrome c oxidase reveals a novel protein-protein interaction mode. *EMBO J*, *36*(3), 291-300. doi:10.15252/embj.201695021
- Shimada, S., Shinzawa-Itoh, K., Baba, J., Aoe, S., Shimada, A., Yamashita, E., Kang, J., Tateno, M., Yoshikawa, S., & Tsukihara, T. (2017b). Complex structure of cytochrome c-cytochrome c oxidase reveals a novel protein-protein interaction mode. *The EMBO Journal*, *36*(3), 291-300. doi:10.15252/embj.201695021

- Sicard, K. M., & Fisher, M. (2009). Animal models of focal brain ischemia. *Exp Transl Stroke Med*, 1, 7. doi:10.1186/2040-7378-1-7
- Singh, B. N., Shankar, S., & Srivastava, R. K. (2011). Green tea catechin, epigallocatechin-3-gallate (egcg): Mechanisms, perspectives and clinical applications. *Biochem Pharmacol*, 82(12), 1807-1821. doi:10.1016/j.bcp.2011.07.093
- Singh, N. A., Mandal, A. K., & Khan, Z. A. (2016). Potential neuroprotective properties of epigallocatechin-3-gallate (egcg). *Nutr J*, 15(1), 60. doi:10.1186/s12937-016-0179-4
- Sinkovics, J. G. (1991). Programmed cell death (apoptosis): Its virological and immunological connections (a review). *Acta Microbiol Hung*, 38(3-4), 321-334. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/1817429>
- Smith, W. S., Johnston, S. C., & Hemphil, J. C. (2017). Cerebrovascular disease. In S. L. Hauser (Ed.), *Harrison's: Neurology in clinical medicine* (4 ed., pp. 323-360). New York: Mc Graw Hill Education.
- Snitsarev, V., Young, M. N., Miller, R. M., & Rotella, D. P. (2013). The spectral properties of (-)-epigallocatechin 3-o-gallate (egcg) fluorescence in different solvents: Dependence on solvent polarity. *PLoS One*, 8(11), e79834. doi:10.1371/journal.pone.0079834
- Song, J., Park, J., Oh, Y., & Lee, J. E. (2015). Glutathione suppresses cerebral infarct volume and cell death after ischemic injury: Involvement of foxo3 inactivation and bcl2 expression. *Oxid Med Cell Longev*, 2015, 426069. doi:10.1155/2015/426069
- Srinivasan, S., & Avadhani, N. G. (2012). Cytochrome c oxidase dysfunction in oxidative stress. *Free Radical Biology and Medicine*, 53(6), 1252-1263. doi:10.1016/j.freeradbiomed.2012.07.021
- Stokum, J. A., Gerzanich, V., & Simard, J. M. (2016). Molecular pathophysiology of cerebral edema. *J Cereb Blood Flow Metab*, 36(3), 513-538. doi:10.1177/0271678X15617172
- Tait, S. W., & Green, D. R. (2010). Mitochondria and cell death: Outer membrane permeabilization and beyond. *Nat Rev Mol Cell Biol*, 11(9), 621-632. doi:10.1038/nrm2952
- Tao, L., Park, J. Y., & Lambert, J. D. (2015). Differential prooxidative effects of the green tea polyphenol, (-)-epigallocatechin-3-gallate, in normal and oral cancer cells are related to differences in sirtuin 3 signaling. *Mol Nutr Food Res*, 59(2), 203-211. doi:10.1002/mnfr.201400485
- Tarawneh, R., & Galvin, J. E. (2010). Potential future neuroprotective therapies for neurodegenerative disorders and stroke. *Clin Geriatr Med*, 26(1), 125-147. doi:10.1016/j.cger.2009.12.003
- Tesarova, P., Kalousova, M., Zima, T., & Tesar, V. (2016). Hmgb1, s100 proteins and other rage ligands in cancer - markers, mediators and putative therapeutic targets. *Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub*, 160(1), 1-10. doi:10.5507/bp.2016.003
- Thakur, V. S., Gupta, K., & Gupta, S. (2012). Green tea polyphenols increase p53 transcriptional activity and acetylation by suppressing class i histone deacetylases. *Int J Oncol*, 41(1), 353-361. doi:10.3892/ijo.2012.1449

- Thiex, R., & Tsirka, S. E. (2007). Brain edema after intracerebral hemorrhage: Mechanisms, treatment options, management strategies, and operative indications. *Neurosurg Focus*, 22(5), E6. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/17613237>
- Touyz, R. M., & Briones, A. M. (2011). Reactive oxygen species and vascular biology: Implications in human hypertension. *Hypertens Res*, 34(1), 5-14. doi:10.1038/hr.2010.201
- Vanlangenakker, N., Berghe, T., Krysko, D., Festjens, N., & Vandenabeele, P. (2008a). Molecular mechanisms and pathophysiology of necrotic cell death. *Current Molecular Medicine*, 8(3), 207-220. doi:10.2174/156652408784221306
- Vanlangenakker, N., Vanden Berghe, T., Krysko, D. V., Festjens, N., & Vandenabeele, P. (2008b). Molecular mechanisms and pathophysiology of necrotic cell death. *Curr Mol Med*, 8(3), 207-220. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/18473820>
- Wajant, H., Pfizenmaier, K., & Scheurich, P. (2003). Tumor necrosis factor signaling. *Cell Death Differ*, 10(1), 45-65. doi:10.1038/sj.cdd.4401189
- Wang, C., & Youle, R. J. (2009). The role of mitochondria in apoptosis\*. *Annu Rev Genet*, 43, 95-118. doi:10.1146/annurev-genet-102108-134850
- Wang, Z. M., Gao, W., Wang, H., Zhao, D., Nie, Z. L., Shi, J. Q., Zhao, S., Lu, X., Wang, L. S., & Yang, Z. J. (2014). Green tea polyphenol epigallocatechin-3-gallate inhibits tnf-alpha-induced production of monocyte chemoattractant protein-1 in human umbilical vein endothelial cells. *Cell Physiol Biochem*, 33(5), 1349-1358. doi:10.1159/000358702
- Wegner, K. W., Saleh, D., & Degterev, A. (2017). Complex pathologic roles of ripk1 and ripk3: Moving beyond necroptosis. *Trends Pharmacol Sci*, 38(3), 202-225. doi:10.1016/j.tips.2016.12.005
- Willey, J. Z. (2012). Acute ischemic stroke. In K. Lee (Ed.), *The neuroicu book* (1 ed., pp. 91-122). New York: Mc Graw Hill Medical.
- Wu, A. H., He, L., Long, W., Zhou, Q., Zhu, S., Wang, P., Fan, S., & Wang, H. (2015). Novel mechanisms of herbal therapies for inhibiting hmgb1 secretion or action. *Evid Based Complement Alternat Med*, 2015, 456305. doi:10.1155/2015/456305
- Wu, K. J., Hsieh, M. T., Wu, C. R., Wood, W. G., & Chen, Y. F. (2012). Green tea extract ameliorates learning and memory deficits in ischemic rats via its active component polyphenol epigallocatechin-3-gallate by modulation of oxidative stress and neuroinflammation. *Evid Based Complement Alternat Med*, 2012, 163106. doi:10.1155/2012/163106
- Xing, C., Arai, K., Lo, E. H., & Hommel, M. (2012). Pathophysiologic cascades in ischemic stroke. *Int J Stroke*, 7(5), 378-385. doi:10.1111/j.1747-4949.2012.00839.x
- Yang, W. S., Moon, S. Y., Lee, M. J., & Park, S. K. (2016). Epigallocatechin-3-gallate attenuates the effects of tnf-alpha in vascular endothelial cells by causing ectodomain shedding of tnf receptor 1. *Cell Physiol Biochem*, 38(5), 1963-1974. doi:10.1159/000445557
- Yao, C., Zhang, J., Liu, G., Chen, F., & Lin, Y. (2014). Neuroprotection by (-)-epigallocatechin-3-gallate in a rat model of stroke is mediated through inhibition of endoplasmic reticulum stress. *Mol Med Rep*, 9(1), 69-76. doi:10.3892/mmr.2013.1778

- Yao, K., Ye, P., Zhang, L., Tan, J., Tang, X., & Zhang, Y. (2008). Epigallocatechin gallate protects against oxidative stress-induced mitochondria-dependent apoptosis in human lens epithelial cells. *Mol Vis*, *14*, 217-223. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/18334937>
- Yenari, M. A., Iwayama, S., Cheng, D., sun, G. H., Fujimura, M., Morita-Fujimura, Y., Chan, P. H., & Steinberg, G. K. (2002). Mild hypothermia attenuates cytochrome c release but does not alter bcl-2 expression or caspase activation after experimental stroke. *Journal of Cerebral Blood Flow & Metabolism*, *22*, 29-38.
- Yu, Y., Tang, D., & Kang, R. (2015). Oxidative stress-mediated hmgb1 biology. *Front Physiol*, *6*, 93. doi:10.3389/fphys.2015.00093
- Yuan, J. (2009). Neuroprotective strategies targeting apoptotic and necrotic cell death for stroke. *Apoptosis*, *14*(4), 469-477. doi:10.1007/s10495-008-0304-8
- Yue, H. J., Mills, P. J., Ancoli-Israel, S., Lored, J. S., Ziegler, M. G., & Dimsdale, J. E. (2009). The roles of tnf-alpha and the soluble tnf receptor i on sleep architecture in osa. *Sleep Breath*, *13*(3), 263-269. doi:10.1007/s11325-008-0242-2
- Zhai, D.-X., Kong, Q.-F., Xu, W.-S., Bai, S.-S., Peng, H.-S., Zhao, K., Li, G.-Z., Wang, D.-D., Sun, B., Wang, J.-H., Wang, G.-Y., & Li, H.-L. (2008). Rage expression is up-regulated in human cerebral ischemia and pmcao rats. *Neuroscience Letters*, *445*(1), 117-121. doi:<https://doi.org/10.1016/j.neulet.2008.08.077>
- Zhang, F., Wang, S., Zhang, M., Weng, Z., Li, P., Gan, Y., Zhang, L., Cao, G., Gao, Y., Leak, R. K., Sporn, M. B., & Chen, J. (2012). Pharmacological induction of heme oxygenase-1 by a triterpenoid protects neurons against ischemic injury. *Stroke*, *43*(5), 1390-1397. doi:10.1161/STROKEAHA.111.647420
- Zhang, H., Ofengeim, D., Shi, Y., Zhang, F., Hwang, J., Chen, J., & Zukin, R. S. (2016). Molecular and cellular mechanisms of ischemia-induced neuronal death. In J. C. Grotta, G. W. Albers, J. P. Broderick, S. E. Kasner, E. H. Lo, A. D. Mendelow, R. L. Sacco, & L. K. S. Wong (Eds.), *Stroke: Pathophysiology, diagnosis, and management* (6 ed., pp. 60-79). China: Elsevier Inc.
- Zhang, J. C., Xu, H., Yuan, Y., Chen, J. Y., Zhang, Y. J., Lin, Y., & Yuan, S. Y. (2017). Delayed treatment with green tea polyphenol egcg promotes neurogenesis after ischemic stroke in adult mice. *Mol Neurobiol*, *54*(5), 3652-3664. doi:10.1007/s12035-016-9924-0
- Zhang, Q., Kang, R., Zeh, H. J., 3rd, Lotze, M. T., & Tang, D. (2013). Damps and autophagy: Cellular adaptation to injury and unscheduled cell death. *Autophagy*, *9*(4), 451-458. doi:10.4161/auto.23691
- Zhang, X., Chen, Y., Jenkins, L. W., Kochanek, P. M., & Clark, R. S. (2005). Bench-to-bedside review: Apoptosis/programmed cell death triggered by traumatic brain injury. *Crit Care*, *9*(1), 66-75. doi:10.1186/cc2950
- Zhao, C., Li, C., Liu, S., & Yang, L. (2014). The galloyl catechins contributing to main antioxidant capacity of tea made from camellia sinensis in china. *ScientificWorldJournal*, *2014*, 863984. doi:10.1155/2014/863984
- Zhao, H., Yenari, M. A., Cheng, D., Sapolsky, R. M., & Steinberg, G. K. (2005). Biphasic cytochrome c release after transient global ischemia and its inhibition by hypothermia.



*Journal of Cerebral Blood Flow & Metabolism*, 25(9), 1119-1129.  
doi:10.1038/sj.jcbfm.9600111

Zhu, Y., Cui, H., Xia, Y., & Gan, H. (2016). Ripk3-mediated necroptosis and apoptosis contributes to renal tubular cell progressive loss and chronic kidney disease progression in rats. *PLoS One*, 11(6), e0156729. doi:10.1371/journal.pone.0156729

Ziai, W. C. (2013). Hematology and inflammatory signaling of intracerebral hemorrhage. *Stroke*, 44(6 Suppl 1), S74-78. doi:10.1161/STROKEAHA.111.000662