

## REFERENCES

- Ajitkumar, A., Yarrarapu, S., Ramphul, K. (2023). Chediak-Higashi Syndrome. *StatPearls [Internet]*. Retrieved September 12, 2023, from: <https://www.ncbi.nlm.nih.gov/books/NBK507881/>
- Chen, C. Y., Liaw, C. C., Chen, Y. H., Chang, W. Y., Chung, P. J., & Hwang, T. L. (2014). A novel immunomodulatory effect of ugonin U in human neutrophils via stimulation of phospholipase C. *Free Radical Biology and Medicine*, 72, 222-231. <https://doi.org/10.1016/j.freeradbiomed.2014.04.018>
- Chertkova, R. V., Oleynikov, I. P., Pakhomov, A. A., Sudakov, R. V., Orlov, V. N., Semenova, M. A., ... & Vygodina, T. V. (2023). Mutant Cytochrome C as a Potential Detector of Superoxide Generation: Effect of Mutations on the Function and Properties. *Cells*, 12(18), 2316. <https://doi.org/10.3390/cells12182316>
- Damascena, H. L., Silveira, W. A. A., Castro, M. S., & Fontes, W. (2022). Neutrophil activated by the famous and potent PMA (Phorbol myristate acetate). *Cells*, 11(18), 2889. <https://doi.org/10.3390/cells11182889>
- Dömer, D., Walther, T., Möller, S., Behnen, M., & Laskay, T. (2021). Neutrophil extracellular traps activate proinflammatory functions of human neutrophils. *Frontiers in Immunology*, 12, 636954. <https://doi.org/10.3389/fimmu.2021.636954>
- Eichelberger, K. R., & Goldman, W. E. (2020). Manipulating neutrophil degranulation as a bacterial virulence strategy. *PLoS pathogens*, 16(12), e1009054. <https://doi.org/10.1371/journal.ppat.1009054>
- El-Benna, J., Hurtado-Nedelec, M., Marzaioli, V., Marie, J. C., Gougerot-Pocidalo, M. A., & Dang, P. M. C. (2016). Priming of the neutrophil respiratory burst: role in host defense and inflammation. *Immunological Reviews*, 273(1), 180-193.
- Fang, H., Jiang, W., Cheng, J., Lu, Y., Liu, A., Kan, L., & Dahmen, U. (2015). Balancing innate immunity and inflammatory state via modulation of neutrophil function: a novel strategy to fight sepsis. *Journal of Immunology Research*, 2015. <https://doi.org/10.1155/2015/187048>
- Felix, L. C., Almas, S., & Lacy, P. (2018). Regulatory mechanisms in neutrophil degranulation. *Immunopharmacology and Inflammation*, 191-210.
- Francis, E. A., Xiao, H., Teng, L. H., & Heinrich, V. (2022). Mechanisms of frustrated phagocytic spreading of human neutrophils on antibody-coated surfaces. *Biophysical Journal*, 121(23), 4714-4728. <https://doi.org/10.1016/j.bpj.2022.10.016>
- Gierlikowska, B., Stachura, A., Gierlikowski, W., & Demkow, U. (2021). Phagocytosis, degranulation and extracellular traps release by neutrophils—the current knowledge, pharmacological

- modulation and future prospects. *Frontiers in Pharmacology*, 12, 666732. <https://doi.org/10.3389/fphar.2021.666732>
- Gomzikova, M. O., Aimaletdinov, A. M., Bondar, O. V., Starostina, I. G., Gorshkova, N. V., Neustroeva, O. A., ... & Rizvanov, A. A. (2020). Immunosuppressive properties of cytochalasin B-induced membrane vesicles of mesenchymal stem cells: Comparing with extracellular vesicles derived from mesenchymal stem cells. *Scientific Reports*, 10(1), 10740.
- Hampton, L. M. T., Jeffries, M. K. S., & Venables, B. J. (2020). A practical guide for assessing respiratory burst and phagocytic cell activity in the fathead minnow, an emerging model for immunotoxicity. *MethodsX*, 7, 100992. <https://doi.org/10.1016/j.mex.2020.100992>
- Hirai, H., Sootome, H., Nakatsuru, Y., Miyama, K., Taguchi, S., Tsujioka, K., ... & Kotani, H. (2010). MK-2206, an allosteric Akt inhibitor, enhances antitumor efficacy by standard chemotherapeutic agents or molecular targeted drugs in vitro and in vivo. *Molecular Cancer Therapeutics*, 9(7), 1956-1967. <https://doi.org/10.1158/1535-7163.MCT-09-1012>
- Hoppenbrouwers, T., Autar, A. S., Sultan, A. R., Abraham, T. E., van Cappellen, W. A., Houtsmuller, A. B., ... & de Maat, M. P. (2017). In vitro induction of NETosis: Comprehensive live imaging comparison and systematic review. *PLoS one*, 12(5), e0176472.
- Hurtado-Nedelec, M., Makni-Maalej, K., Gougerot-Pocidalo, M. A., Dang, P. M. C., & El-Benna, J. (2014). Assessment of priming of the human neutrophil respiratory burst. *Neutrophil Methods and Protocols*, 405-412. [https://doi.org/10.1007/978-1-62703-845-4\\_23](https://doi.org/10.1007/978-1-62703-845-4_23)
- Hüttemann, M., Pecina, P., Rainbolt, M., Sanderson, T. H., Kagan, V. E., Samavati, L., ... & Lee, I. (2011). The multiple functions of cytochrome c and their regulation in life and death decisions of the mammalian cell: From respiration to apoptosis. *Mitochondrion*, 11(3), 369-381. <https://doi.org/10.1016/j.mito.2011.01.010>
- Jie, Z., Liu, J., Shu, M., Ying, Y., & Yang, H. (2022). Detection strategies for superoxide anion: A review. *Talanta*, 236, 122892. <https://doi.org/10.1016/j.talanta.2021.122892>
- Jo, A., & Kim, D. W. (2023). Neutrophil extracellular traps in airway diseases: Pathological roles and therapeutic implications. *International Journal of Molecular Sciences*, 24(5), 5034. <https://doi.org/10.3390/ijms24055034>
- Kanaho, Y., Sato, T., Hongu, T., & Funakoshi, Y. (2013). Molecular mechanisms of fMLP-induced superoxide generation and degranulation in mouse neutrophils. *Advances in Biological Regulation*, 53(1), 128-134. <https://doi.org/10.1016/j.jbior.2012.09.001>
- Klopf, J., Brostjan, C., Eilenberg, W., & Neumayer, C. (2021). Neutrophil extracellular traps and their implications in cardiovascular and inflammatory disease. *International Journal of Molecular Sciences*, 22(2), 559. <https://doi.org/10.3390/ijms22020559>

- Kobayashi, S. D., Malachowa, N., & DeLeo, F. R. (2018). Neutrophils and bacterial immune evasion. *Journal of Innate Immunity*, 10(5-6), 432-441. <https://doi.org/10.1159/000487756>
- Korkmaz, B., Horwitz, M. S., Jenne, D. E., & Gauthier, F. (2010). Neutrophil elastase, proteinase 3, and cathepsin G as therapeutic targets in human diseases. *Pharmacological reviews*, 62(4), 726-759. <https://doi.org/10.1124/pr.110.002733>
- Lakschevitz, F. S., Hassanpour, S., Rubin, A., Fine, N., Sun, C., & Glogauer, M. (2016). Identification of neutrophil surface marker changes in health and inflammation using high-throughput screening flow cytometry. *Experimental Cell Research*, 342(2), 200-209. <https://doi.org/10.1016/j.yexcr.2016.03.007>
- Lacy, P. (2006). Mechanisms of degranulation in neutrophils. *Allergy, Asthma & Clinical Immunology*, 2(3), 1-11.
- Lee, K. H., Kronbichler, A., Park, D. D. Y., Park, Y., Moon, H., Kim, H., ... & Shin, J. I. (2017). Neutrophil extracellular traps (NETs) in autoimmune diseases: A comprehensive review. *Autoimmunity Reviews*, 16(11), 1160-1173. <https://doi.org/10.1016/j.autrev.2017.09.012>
- Lehman, H. K., & Segal, B. H. (2020). The role of neutrophils in host defense and disease. *Journal of Allergy and Clinical Immunology*, 145(6), 1535-1544. <https://doi.org/10.1016/j.jaci.2020.02.038>
- Li, T., Zhang, Z., Li, X., Dong, G., Zhang, M., Xu, Z., & Yang, J. (2020). Neutrophil extracellular traps: signaling properties and disease relevance. *Mediators of Inflammation*, 2020. <https://doi.org/10.1155/2020/9254087>
- Liew, P. X., & Kubes, P. (2019). The neutrophil's role during health and disease. *Physiological Reviews*, 99(2), 1223-1248. <https://doi.org/10.1152/physrev.00012.2018>
- Lin, J., Sampath, D., Nannini, M. A., Lee, B. B., Degtyarev, M., Oeh, J., ... & Lin, K. (2013). Targeting activated Akt with GDC-0068, a novel selective Akt inhibitor that is efficacious in multiple tumor models. *Clinical Cancer Research*, 19(7), 1760-1772. <https://doi.org/10.1158/1078-0432.CCR-12-3072>
- Liu, M. L., Lyu, X., & Werth, V. P. (2022). Recent progress in the mechanistic understanding of NET formation in neutrophils. *The FEBS Journal*, 289(14), 3954-3966. <https://doi.org/10.1111/febs.16036>
- Malech, H. L., DeLeo, F. R., & Quinn, M. T. (2014). The role of neutrophils in the immune system: an overview. *Neutrophil Methods and Protocols*, 3-10. [https://doi.org/10.1007/978-1-62703-845-4\\_1](https://doi.org/10.1007/978-1-62703-845-4_1)
- Metzemaekers, M., Gouwy, M., & Proost, P. (2020). Neutrophil chemoattractant receptors in health and disease: double-edged swords. *Cellular & Molecular Immunology*, 17(5), 433-450.

- Mayadas, T. N., Cullere, X., & Lowell, C. A. (2014). The multifaceted functions of neutrophils. *Annual Review of Pathology: Mechanisms of Disease*, 9, 181-218.  
<https://doi.org/10.1146/annurev-pathol-020712-164023>
- Mortaz, E., Alipoor, S. D., Adcock, I. M., Mumby, S., & Koenderman, L. (2018). Update on neutrophil function in severe inflammation. *Frontiers in Immunology*, 9, 2171.  
<https://doi.org/10.3389/fimmu.2018.02171>
- Moschonas, I. C., & Tselepis, A. D. (2019). The pathway of neutrophil extracellular traps towards atherosclerosis and thrombosis. *Atherosclerosis*, 288, 9-16.  
<https://doi.org/10.1016/j.atherosclerosis.2019.06.919>
- Naegelen, I., Beaume, N., Plançon, S., Schenten, V., Tschirhart, E. J., & Bréhard, S. (2015). Regulation of neutrophil degranulation and cytokine secretion: a novel model approach based on linear fitting. *Journal of Immunology Research*, 2015. <https://doi.org/10.1155/2015/817038>
- Nakabo, S., Kaplan, M. J., & Gupta, S. (2022). Quantification of neutrophils undergoing NET formation and distinguishing mechanisms of neutrophil cell death by use of a high-throughput method. *Apoptosis and Cancer: Methods and Protocols*, 129-140.
- Nauclér, C., Grinstein, S., Sundler, R., & Tapper, H. (2002). Signaling to localized degranulation in neutrophils adherent to immune complexes. *Journal of Leukocyte Biology*, 71(4), 701-710.  
<https://doi.org/10.1189/jlb.71.4.701>
- Németh, T., Sperandio, M., & Mócsai, A. (2020). Neutrophils as emerging therapeutic targets. *Nature Reviews Drug Discovery*, 19(4), 253-275.
- Nguyen, G. T., Green, E. R., & Mecsas, J. (2017). Neutrophils to the ROScue: mechanisms of NADPH oxidase activation and bacterial resistance. *Frontiers in Cellular and Infection Microbiology*, 7, 373. <https://doi.org/10.3389/fcimb.2017.00373>
- Opasawatchai, A., Amornsupawat, P., Jiravejchakul, N., Chan-In, W., Spoerk, N. J., Manopwisedjaroen, K., ... & Loison, F. (2019). Neutrophil activation and early features of NET formation are associated with dengue virus infection in human. *Frontiers in Immunology*, 9, 3007.  
<https://doi.org/10.3389/fimmu.2018.03007>
- Othman, A., Sekheri, M., & Filep, J. G. (2022). Roles of neutrophil granule proteins in orchestrating inflammation and immunity. *The FEBS Journal*, 289(14), 3932-3953.  
<https://doi.org/10.1111/febs.15803>
- Prêtre, V., & Wicki, A. (2018). Inhibition of Akt and other AGC kinases: A target for clinical cancer therapy?. *Seminars in Cancer Biology*, 48, 70-77.  
<https://doi.org/10.1016/j.semcan.2017.04.011>

- Raad, H., Mouawia, H., Hassan, H., El-Seblani, M., Arabi-Derkawi, R., Boussetta, T., ... & El-Benna, J. (2020). The protein kinase A negatively regulates reactive oxygen species production by phosphorylating gp91phox/NOX2 in human neutrophils. *Free Radical Biology and Medicine*, 160, 19-27. <https://doi.org/10.1016/j.freeradbiomed.2020.07.021>
- Rada, B. (2019). Neutrophil extracellular traps. *NADPH Oxidases: Methods and Protocols*, 517-528. [https://doi.org/10.1007/978-1-4939-9424-3\\_31](https://doi.org/10.1007/978-1-4939-9424-3_31)
- Richards, D. M., & Endres, R. G. (2017). How cells engulf: a review of theoretical approaches to phagocytosis. *Reports on Progress in Physics*, 80(12), 126601. <https://doi.org/10.1088/1361-6633/aa8730>
- Rosales, C. (2018). Neutrophil: a cell with many roles in inflammation or several cell types? *Frontiers in Physiology*, 9, 113. <https://doi.org/10.3389/fphys.2018.00113>
- Rosazza, T., Warner, J., & Sollberger, G. (2021). NET formation—mechanisms and how they relate to other cell death pathways. *The FEBS Journal*, 288(11), 3334-3350. <https://doi.org/10.1111/febs.15589>
- Saeki, K., Yagisawa, M., Kitagawa, S., & Yuo, A. (2001). Diverse effects of cytochalasin B on priming and triggering the respiratory burst activity in human neutrophils and monocytes. *International Journal of Hematology*, 74, 409-415.
- Schultz, B. M., Acevedo, O. A., Kalergis, A. M., & Bueno, S. M. (2022). Role of extracellular trap release during bacterial and viral infection. *Frontiers in Microbiology*, 13, 798853. <https://doi.org/10.3389/fmicb.2022.798853>
- Smolen, J. E. (2018). Characteristics and mechanisms of secretion by neutrophils. *The Neutrophil: Cellular Biochemistry and Physiology*, 23-61.
- Stock, A. J., Kasus-Jacobi, A., & Pereira, H. A. (2018). The role of neutrophil granule proteins in neuroinflammation and Alzheimer's disease. *Journal of Neuroinflammation*, 15(1), 1-15.
- Stoimenou, M., Tzoros, G., Skendros, P., & Chrysanthopoulou, A. (2022). Methods for the Assessment of NET Formation: From Neutrophil Biology to Translational Research. *International Journal of Molecular Sciences*, 23(24), 15823. <https://doi.org/10.3390/ijms232415823>
- Takaishi, K., Kinoshita, H., Feng, G. G., Azma, T., Kawahito, S., & Kitahata, H. (2020). Cytoskeleton-disrupting agent cytochalasin B reduces oxidative stress caused by high glucose in the human arterial smooth muscle. *Journal of Pharmacological Sciences*, 144(4), 197-203. <https://doi.org/10.1016/j.jphs.2020.08.004>
- Underhill, D. M., & Goodridge, H. S. (2012). Information processing during phagocytosis. *Nature Reviews Immunology*, 12(7), 492-502.

- Winterbourn, C. C., Kettle, A. J., & Hampton, M. B. (2016). Reactive oxygen species and neutrophil function. *Annual Review of Biochemistry*, 85, 765-792.
- Zamolodchikova, T. S., Tolpygo, S. M., & Svirshchevskaya, E. V. (2020). Cathepsin G—not only inflammation: the immune protease can regulate normal physiological processes. *Frontiers in Immunology*. 11, 1-5. <https://doi.org/10.3389/fimmu.2020.00411>
- Zhang, N., Aiyaniding, X., Li, W. J., Liao, H. H., & Tang, Q. Z. (2022). Neutrophil degranulation and myocardial infarction. *Cell Communication and Signaling*, 20(1), 1-23.