

## REFERENCES

- Abramczyk, H., Surmacki, J. M., Kopeć, M., Jarczewska, K., & Romanowska-Pietrasiak, B. (2023). Hemoglobin and cytochrome c. reinterpreting the origins of oxygenation and oxidation in erythrocytes and in vivo cancer lung cells. *Scientific Reports*, 13(1). <https://doi.org/10.1038/s41598-023-41858-z>
- Ahirwar, R., Bariar, S., Balakrishnan, A., & Nahar, P. (2015). BSA blocking in enzyme-linked immunosorbent assays is a non-mandatory step: A perspective study on mechanism of BSA blocking in common Elisa Protocols. *RSC Advances*, 5(121), 100077–100083. <https://doi.org/10.1039/c5ra20750a>
- Alharthi, N. S., Khan, H., Siyal, F. J., Shaikh, Z. A., Arain, S. P., Eltayeb, L. B., & Mangi, A. A. (2022). Glutathione, Cysteine, and D-Penicillamine Role in Exchange of Silver Metal from the Albumin Metal Complex. *BioMed research international*, 2022, 3619308. <https://doi.org/10.1155/2022/3619308> (Retraction published *Biomed Res Int*. 2024 Jan 9;2024:9810690)
- Anderson, S. L., & Singh, B. (2018). Equine neutrophils and their role in ischemia reperfusion injury and lung inflammation. *Cell and Tissue Research*, 371(3), 639–648. <https://doi.org/10.1007/s00441-017-2770-1>
- Andrés, C. M. C., Pérez de la Lastra, J. M., Andrés Juan, C., Plou, F. J., & Pérez-Lebeña, E. (2023). Superoxide Anion Chemistry-Its Role at the Core of the Innate Immunity. *International journal of molecular sciences*, 24(3), 1841. <https://doi.org/10.3390/ijms24031841>
- Angeletti, A., Volpi, S., Bruschi, M., Lugani, F., Vaglio, A., Prunotto, M., Gattorno, M., Schena, F., Verrina, E., Ravelli, A., & Ghiggeri, G. M. (2021). Neutrophil Extracellular Traps-DNase Balance and Autoimmunity. *Cells*, 10(10), 2667. <https://doi.org/10.3390/cells10102667>
- Arbuthnott, G., & Garcia-Muñoz, M. (2010). Neuropharmacology. Companion to Psychiatric Studies, 45–76. <https://doi.org/10.1016/b978-0-7020-3137-3.00003-6>
- Antigny, F., Norez, C., Becq, F., & Vandebrouck, C. (2011). CFTR and Ca Signaling in Cystic Fibrosis. *Frontiers in pharmacology*, 2, 67. <https://doi.org/10.3389/fphar.2011.00067>
- Aroca, R., Chamorro, C., Vega, A., Ventura, I., Gómez, E., Pérez-Cano, R., Blanca, M., & Monteseirín, J. (2014). Immunotherapy reduces allergen-mediated CD66b expression and myeloperoxidase levels on human neutrophils from allergic patients. *PloS one*, 9(4), e94558. <https://doi.org/10.1371/journal.pone.0094558>
- Bearer E. L. (1993). Role of actin polymerization in cell locomotion: molecules and models. *American journal of respiratory cell and molecular biology*, 8(6), 582–591. <https://doi.org/10.1165/ajrcmb/8.6.582>

- Bedouhène, S., Moulti-Mati, F., Hurtado-Nedelec, M., Dang, P. M., & El-Benna, J. (2017). Luminol-amplified chemiluminescence detects mainly superoxide anion produced by human neutrophils. *American journal of blood research*, 7(4), 41–48.
- Boess, F., & Boelsterli, U. A. (2002). Luminol as a probe to assess reactive oxygen species production from redox-cycling drugs in cultured hepatocytes. *Toxicology mechanisms and methods*, 12(1), 79–94. <https://doi.org/10.1080/15376510209167938>
- Boes, K. M., & Durham, A. C. (2017). Bone Marrow, blood cells, and the lymphoid/lymphatic system. *Pathologic Basis of Veterinary Disease*. <https://doi.org/10.1016/b978-0-323-35775-3.00013-8>
- Boucher D. (2019). Isolation of Neutrophil Nuclei for Use in NETosis Assays. *Bio-protocol*, 9(17), e3357. <https://doi.org/10.21769/BioProtoc.3357>
- Burn, G. L., Foti, A., Marsman, G., Patel, D. F., & Zychlinsky, A. (2021). The Neutrophil. *Immunity*, 54(7), 1377–1391. <https://doi.org/10.1016/j.immuni.2021.06.006>
- Bzowska, M., Hamczyk, M., Skalniak, A., & Guzik, K. (2011). Rapid decrease of CD16 (FcγRIII) expression on heat-shocked neutrophils and their recognition by macrophages. *Journal of biomedicine & biotechnology*, 2011, 284759. <https://doi.org/10.1155/2011/284759>
- Chang, H. T., Chou, C. T., Chen, I. S., Yu, C. C., Lu, T., Hsu, S. S., Shieh, P., Jan, C. R., & Liang, W. Z. (2016). Mechanisms underlying effect of the mycotoxin cytochalasin B on induction of cytotoxicity, modulation of cell cycle, Ca<sup>2+</sup> homeostasis and ROS production in human breast cells. *Toxicology*, 370, 1–19. <https://doi.org/10.1016/j.tox.2016.09.006>
- Chapman-Kirkland, E. S., Wasvary, J. S., & Seligmann, B. E. (1991). Superoxide anion production from human neutrophils measured with an improved kinetic and endpoint microassay. *Journal of immunological methods*, 142(1), 95–104. [https://doi.org/10.1016/0022-1759\(91\)90296-r](https://doi.org/10.1016/0022-1759(91)90296-r)
- 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. doi:10.1016/j.freeradbiomed.2014.
- Cheng, Y., Felix, B., & Othmer, H. G. (2020). The Roles of Signaling in Cytoskeletal Changes, Random Movement, Direction-Sensing and Polarization of Eukaryotic Cells. *Cells*, 9(6), 1437. <https://doi.org/10.3390/cells9061437>
- Chertkova, R. V., Brazhe, N. A., Bryantseva, T. V., Nekrasov, A. N., Dolgikh, D. A., Yusipovich, A. I., Sosnovtseva, O., Maksimov, G. V., Rubin, A. B., & Kirpichnikov, M. P. (2017). New insight into the mechanism of mitochondrial cytochrome c function. *PLoS one*, 12(5), e0178280. <https://doi.org/10.1371/journal.pone.0178280>

- Cobley, J. N. (2020). Mechanisms of mitochondrial ROS production in assisted reproduction: The known, the unknown, and the intriguing. *Antioxidants*, 9(10), 933. <https://doi.org/10.3390/antiox9100933>
- Condren, M. E., & Bradshaw, M. D. (2013). Ivacaftor: a novel gene-based therapeutic approach for cystic fibrosis. *The journal of pediatric pharmacology and therapeutics : JPPT : the official journal of PPAG*, 18(1), 8–13. <https://doi.org/10.5863/1551-6776-18.1.8>
- Connelly, A. N., Huijbregts, R. P. H., Pal, H. C., Kuznetsova, V., Davis, M. D., Ong, K. L., Fay, C. X., Greene, M. E., Overton, E. T., & Hel, Z. (2022). Optimization of methods for the accurate characterization of whole blood neutrophils. *Scientific reports*, 12(1), 3667. <https://doi.org/10.1038/s41598-022-07455-2>
- Cosentino-Gomes, D., Rocco-Machado, N., & Meyer-Fernandes, J. R. (2012). Cell signaling through protein kinase C oxidation and activation. *International journal of molecular sciences*, 13(9), 10697–10721. <https://doi.org/10.3390/ijms130910697>
- Cossío, I., Lucas, D., & Hidalgo, A. (2019). Neutrophils as regulators of the hematopoietic niche. *Blood*, 133(20), 2140–2148. <https://doi.org/10.1182/blood-2018-10-844571>
- 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>
- Deai, M., Oya, R., Saso, N., Tanaka, A., Uchida, I., Miyake, Y., Tachihara, R., Otsugu, M., Mine, A., Sato, K., & Tomura, H. (2022). Ethylenediaminetetraacetic acid (EDTA) enhances camp production in human TDAG8-expressing cells. *Biochemical and Biophysical Research Communications*, 626, 15–20. <https://doi.org/10.1016/j.bbrc.2022.07.110>
- Deshpande, O. A., & Wadhwa, R. (2023). Phagocytosis. In *StatPearls*. StatPearls Publishing.
- Dinauer M. C. (2016). Primary immune deficiencies with defects in neutrophil function. *Hematology. American Society of Hematology. Education Program*, 2016(1), 43–50. <https://doi.org/10.1182/asheducation-2016.1.43>
- Domon, H., Nagai, K., Maekawa, T., Oda, M., Yonezawa, D., Takeda, W., Hiyoshi, T., Tamura, H., Yamaguchi, M., Kawabata, S., & Terao, Y. (2018). Neutrophil Elastase Subverts the Immune Response by Cleaving Toll-Like Receptors and Cytokines in Pneumococcal Pneumonia. *Frontiers in immunology*, 9, 732. <https://doi.org/10.3389/fimmu.2018.00732>
- Duskey, J. T., da Ros, F., Ottonelli, I., Zambelli, B., Vandelli, M. A., Tosi, G., & Ruozi, B. (2020). Enzyme Stability in Nanoparticle Preparations Part 1: Bovine Serum Albumin Improves Enzyme Function. *Molecules (Basel, Switzerland)*, 25(20), 4593. <https://doi.org/10.3390/molecules25204593>
- Egido, J. E., Toner-Bartelds, C., Costa, A. R., Brouns, S. J. J., Rooijackers, S. H. M., Bardoel, B. W., & Haas, P. J. (2023). Monitoring phage-induced lysis of gram-negatives in real time using a

fluorescent DNA dye. *Scientific reports*, 13(1), 856.  
<https://doi.org/10.1038/s41598-023-27734-w>

Eichelberger, K. R., & Goldman, W. E. (2019). Human neutrophil isolation and degranulation responses to yersinia pestis infection. *Methods in Molecular Biology*, 197–209.  
[https://doi.org/10.1007/978-1-4939-9541-7\\_14](https://doi.org/10.1007/978-1-4939-9541-7_14)

Feld, M., Shpacovitch, V., Ehrhardt, C., Fastrich, M., Goerge, T., Ludwig, S., & Steinhoff, M. (2013). Proteinase-activated receptor-2 agonist activates anti-influenza mechanisms and modulates IFN $\gamma$ -induced antiviral pathways in human neutrophils. *BioMed Research International*, 2013, 1–10. <https://doi.org/10.1155/2013/879080>

Ferguson, T. A., Choi, J., & Green, D. R. (2011). Armed response: how dying cells influence T-cell functions. *Immunological reviews*, 241(1), 77–88.  
<https://doi.org/10.1111/j.1600-065X.2011.01006.x>

Fohner, A. E., McDonagh, E. M., Clancy, J. P., Whirl Carrillo, M., Altman, R. B., & Klein, T. E. (2017). PharmGKB summary: ivacaftor pathway, pharmacokinetics/pharmacodynamics. *Pharmacogenetics and genomics*, 27(1), 39–42.  
<https://doi.org/10.1097/FPC.0000000000000246>

Freitas, M., Porto, G., Lima, J. L. F. C., & Fernandes, E. (2008). Isolation and activation of human neutrophils in vitro. the importance of the anticoagulant used during Blood collection. *Clinical Biochemistry*, 41(7–8), 570–575. <https://doi.org/10.1016/j.clinbiochem.2007.12.021>

Fu, H., Bylund, J., Karlsson, A., Pellmé, S., & Dahlgren, C. (2004). The mechanism for activation of the neutrophil NADPH-oxidase by the peptides formyl-Met-Leu-Phe and Trp-Lys-Tyr-Met-Val-Met differs from that for interleukin-8. *Immunology*, 112(2), 201–210.  
<https://doi.org/10.1111/j.1365-2567.2004.01884.x>

Futosi, K., Fodor, S., & Mócsai, A. (2013). Neutrophil cell surface receptors and their intracellular signal transduction pathways. *International immunopharmacology*, 17(3), 638–650.  
<https://doi.org/10.1016/j.intimp.2013.06.034>

Gavillet, M., Martinod, K., Renella, R., Wagner, D. D., & Williams, D. A. (2018). A key role for Rac and Pak signaling in neutrophil extracellular traps (NETs) formation defines a new potential therapeutic target. *American journal of hematology*, 93(2), 269–276.  
<https://doi.org/10.1002/ajh.24970>

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>

- Golbach, L. A., Scheer, M. H., Cuppen, J. J. M., Savelkoul, H., & Verburg-van Kemenade, B. M. L. (2015). Low-frequency electromagnetic field exposure enhances extracellular trap formation by human neutrophils through the NADPH pathway. *Journal of Innate Immunity*, 7(5), 459–465. <https://doi.org/10.1159/000380764>
- Gustafson, H. H., Holt-Casper, D., Grainger, D. W., & Ghandehari, H. (2015). Nanoparticle uptake: The phagocyte problem. *Nano Today*, 10(4), 487–510. <https://doi.org/10.1016/j.nantod.2015.06.006>
- Halverson, T. W., Wilton, M., Poon, K. K., Petri, B., & Lewenza, S. (2015). DNA is an antimicrobial component of neutrophil extracellular traps. *PLoS pathogens*, 11(1), e1004593. <https://doi.org/10.1371/journal.ppat.1004593>
- 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>
- Hanssens, L. S., Duchateau, J., & Casimir, G. J. (2021). CFTR Protein: Not Just a Chloride Channel?. *Cells*, 10(11), 2844. <https://doi.org/10.3390/cells10112844>
- Harhala, M., Gembara, K., Miernikiewicz, P., Owczarek, B., Kaźmierczak, Z., Majewska, J., Nelson, D. C., & Dąbrowska, K. (2021). DNA Dye Sytox Green in Detection of Bacteriolytic Activity: High Speed, Precision and Sensitivity Demonstrated With Endolysins. *Frontiers in microbiology*, 12, 752282. <https://doi.org/10.3389/fmicb.2021.752282>
- Henry, S. J., Chen, C. S., Crocker, J. C., & Hammer, D. A. (2015). Protrusive and contractile forces of spreading human neutrophils. *Biophysical Journal*, 109(4), 699–709. <https://doi.org/10.1016/j.bpj.2015.05.041>
- Hesselink, L., Spijkerman, R., Hellebrekers, P., van Bourgondiën, R. J., Blasse, E., Haitjema, S., Huisman, A., van Solinge, W. W., Van Wessem, K. J. P., Koenderman, L., Leenen, L. P. H., & Hietbrink, F. (2020). Fragile neutrophils in surgical patients: A phenomenon associated with critical illness. *PloS one*, 15(8), e0236596. <https://doi.org/10.1371/journal.pone.0236596>
- Honeycutt, P. J., & Niedel, J. E. (1986). Cytochalasin B enhancement of the diacylglycerol response in formyl peptide-stimulated neutrophils. *The Journal of biological chemistry*, 261(34), 15900–15905.
- Hong C. W. (2017). Current Understanding in Neutrophil Differentiation and Heterogeneity. *Immune network*, 17(5), 298–306. <https://doi.org/10.4110/in.2017.17.5.298>
- Hosseinnejad, A., Ludwig, N., Wienkamp, A. K., Rimal, R., Bleilevens, C., Rossaint, R., Rossaint, J., & Singh, S. (2021). DNase I functional microgels for neutrophil extracellular trap disruption. *Biomaterials science*, 10(1), 85–99. <https://doi.org/10.1039/d1bm01591e>

- Hunter, S. A., & Cochran, J. R. (2016). Cell-Binding Assays for Determining the Affinity of Protein-Protein Interactions: Technologies and Considerations. *Methods in enzymology*, 580, 21–44. <https://doi.org/10.1016/bs.mie.2016.05.002>
- Hurwitz, S. N., Cheerathodi, M. R., Nkosi, D., York, S. B., & Meckes, D. G., Jr (2018). Tetraspanin CD63 Bridges Autophagic and Endosomal Processes To Regulate Exosomal Secretion and Intracellular Signaling of Epstein-Barr Virus LMP1. *Journal of virology*, 92(5), e01969-17. <https://doi.org/10.1128/JVI.01969-17>
- Immler, R., Simon, S. I., & Sperandio, M. (2018). Calcium signalling and related ion channels in neutrophil recruitment and function. *European journal of clinical investigation*, 48 Suppl 2(Suppl 2), e12964. <https://doi.org/10.1111/eci.12964>
- Jantean, L., Okada, K., Kawakatsu, Y., Kurotani, K. I., & Notaguchi, M. (2022). Measurement of reactive oxygen species production by luminol-based assay in *Nicotiana benthamiana*, *Arabidopsis thaliana* and *Brassica rapa ssp. rapa*. *Plant biotechnology (Tokyo, Japan)*, 39(4), 415–420. <https://doi.org/10.5511/plantbiotechnology.22.0823a>
- Kalina, T., Fišer, K., Pérez-Andrés, M., Kuzílková, D., Cuenca, M., Bartol, S. J. W., Blanco, E., Engel, P., & van Zelm, M. C. (2019). CD Maps-Dynamic Profiling of CD1-CD100 Surface Expression on Human Leukocyte and Lymphocyte Subsets. *Frontiers in immunology*, 10, 2434. <https://doi.org/10.3389/fimmu.2019.02434>
- Kapoor, H., Koolwal, A., & Singh, A. (2014). Ivacaftor: a novel mutation modulating drug. *Journal of clinical and diagnostic research : JCDR*, 8(11), SE01–SE5. <https://doi.org/10.7860/JCDR/2014/6486.5158>
- Khan, P., Idrees, D., Moxley, M. A., Corbett, J. A., Ahmad, F., von Figura, G., Sly, W. S., Waheed, A., & Hassan, M. I. (2014). Luminol-based chemiluminescent signals: clinical and non-clinical application and future uses. *Applied biochemistry and biotechnology*, 173(2), 333–355. <https://doi.org/10.1007/s12010-014-0850-1>
- Klebanoff, S. J., Kettle, A. J., Rosen, H., Winterbourn, C. C., & Nauseef, W. M. (2013). Myeloperoxidase: a front-line defender against phagocytosed microorganisms. *Journal of leukocyte biology*, 93(2), 185–198. <https://doi.org/10.1189/jlb.0712349>
- Khan, P., Idrees, D., Moxley, M. A., Corbett, J. A., Ahmad, F., von Figura, G., Sly, W. S., Waheed, A., & Hassan, M. I. (2014). Luminol-based chemiluminescent signals: clinical and non-clinical application and future uses. *Applied biochemistry and biotechnology*, 173(2), 333–355. <https://doi.org/10.1007/s12010-014-0850-1>
- Kontoghiorghes, G. J., & Kontoghiorghes, C. N. (2020). Iron and Chelation in Biochemistry and Medicine: New Approaches to Controlling Iron Metabolism and Treating Related Diseases. *Cells*, 9(6), 1456. <https://doi.org/10.3390/cells9061456>

- Korchak, H. M., Vienne, K., Rutherford, L. E., & Weissmann, G. (1984). Neutrophil stimulation: receptor, membrane, and metabolic events. *Federation proceedings*, 43(12), 2749–2754.
- Kouoh, F., Gressier, B., Luyckx, M., Brunet, C., Dine, T., Cazin, M., & Cazin, J. C. (1999). Antioxidant properties of albumin: effect on oxidative metabolism of human neutrophil granulocytes. *Farmaco (Societa chimica italiana : 1989)*, 54(10), 695–699. [https://doi.org/10.1016/s0014-827x\(99\)00082-8](https://doi.org/10.1016/s0014-827x(99)00082-8)
- Kretz, R., Wendt, L., Wongkanoun, S., Luangsa-Ard, J. J., Surup, F., Helaly, S. E., Noumeur, S. R., Stadler, M., & Stradal, T. E. B. (2019). The Effect of Cytochalasins on the Actin Cytoskeleton of Eukaryotic Cells and Preliminary Structure–Activity Relationships. *Biomolecules*, 9(2), 73. <https://doi.org/10.3390/biom9020073>
- Lacy P. (2006). Mechanisms of degranulation in neutrophils. *Allergy, asthma, and clinical immunology : official journal of the Canadian Society of Allergy and Clinical Immunology*, 2(3), 98–108. <https://doi.org/10.1186/1710-1492-2-3-98>
- Lambert, C., Schmidt, K., Karger, M., Stadler, M., Stradal, T. E. B., & Rottner, K. (2023). Cytochalasins and Their Impact on Actin Filament Remodeling. *Biomolecules*, 13(8), 1247. <https://doi.org/10.3390/biom13081247>
- Land, M., & Rubin, C. S. (2017). A Calcium- and Diacylglycerol-Stimulated Protein Kinase C (PKC), *Caenorhabditis elegans* PKC-2, Links Thermal Signals to Learned Behavior by Acting in Sensory Neurons and Intestinal Cells. *Molecular and cellular biology*, 37(19), e00192-17. <https://doi.org/10.1128/MCB.00192-17>
- Lawrence, S. M., Corriden, R., & Nizet, V. (2018). The ontogeny of a neutrophil: Mechanisms of granulopoiesis and homeostasis. *Microbiology and Molecular Biology Reviews*, 82(1). <https://doi.org/10.1128/mubr.00057-17>
- Lazarus, R. A., & Wagener†, J. S. (2019). Recombinant Human Deoxyribonuclease I. *Pharmaceutical Biotechnology: Fundamentals and Applications*, 471–488. [https://doi.org/10.1007/978-3-030-00710-2\\_22](https://doi.org/10.1007/978-3-030-00710-2_22)
- Lee, H. J., Woo, Y., Hahn, T. W., Jung, Y. M., & Jung, Y. J. (2020). Formation and Maturation of the Phagosome: A Key Mechanism in Innate Immunity against Intracellular Bacterial Infection. *Microorganisms*, 8(9), 1298. <https://doi.org/10.3390/microorganisms8091298>
- Lebaron, P., Catala, P., & Parthuisot, N. (1998). Effectiveness of SYTOX Green stain for bacterial viability assessment. *Applied and environmental microbiology*, 64(7), 2697–2700. <https://doi.org/10.1128/AEM.64.7.2697-2700.1998>
- Lehman, H. K., & Segal, B. H. (2020). The role of neutrophils in host defense and disease. *The Journal of allergy and clinical immunology*, 145(6), 1535–1544. <https://doi.org/10.1016/j.jaci.2020.02.038>

- Leliefeld, P. H., Wessels, C. M., Leenen, L. P., Koenderman, L., & Pillay, J. (2016). The role of neutrophils in immune dysfunction during severe inflammation. *Critical care (London, England)*, 20, 73. <https://doi.org/10.1186/s13054-016-1250-4>
- Li, D., & Wu, M. (2021). Pattern recognition receptors in health and diseases. *Signal Transduction and Targeted Therapy*, 6(1). <https://doi.org/10.1038/s41392-021-00687-0>
- Liew, P. X., & Kubes, P. (2019). The neutrophil's role during health and disease. *Physiological reviews*, 99(2), 1223-1248.
- Lim, P. S., Sutton, C. R., & Rao, S. (2015). Protein kinase C in the immune system: from signalling to chromatin regulation. *Immunology*, 146(4), 508–522. <https://doi.org/10.1111/imm.12510>
- Lopata, A., Jójárt, B., Surányi, É. V., Takács, E., Bezúr, L., Leveles, I., Bendes, Á. Á., Viskolcz, B., Vértessy, B. G., & Tóth, J. (2019). Beyond Chelation: EDTA Tightly Binds Taq DNA Polymerase, MutT and dUTPase and Directly Inhibits dNTPase Activity. *Biomolecules*, 9(10), 621. <https://doi.org/10.3390/biom9100621>
- Lukasiak, A., & Zajac, M. (2021). The Distribution and Role of the CFTR Protein in the Intracellular Compartments. *Membranes*, 11(11), 804. <https://doi.org/10.3390/membranes11110804>
- Lyon, A. M., & Tesmer, J. J. (2013). Structural insights into phospholipase C- $\beta$  function. *Molecular pharmacology*, 84(4), 488–500. <https://doi.org/10.1124/mol.113.087403>
- Malech, H. L., Deleo, F. R., & Quinn, M. T. (2014). The role of neutrophils in the immune system: an overview. *Methods in molecular biology (Clifton, N.J.)*, 1124, 3–10. [https://doi.org/10.1007/978-1-62703-845-4\\_1](https://doi.org/10.1007/978-1-62703-845-4_1)
- Manda, A., Pruchniak, M. P., Araźna, M., & Demkow, U. A. (2014). Neutrophil extracellular traps in physiology and pathology. *Central-European journal of immunology*, 39(1), 116–121. <https://doi.org/10.5114/ceji.2014.42136>
- Manley, H. R., Keightley, M. C., & Lieschke, G. J. (2018). The neutrophil nucleus: An important influence on neutrophil migration and function. *Frontiers in Immunology*, 9. <https://doi.org/10.3389/fimmu.2018.02867>
- Mao, F., Liu, K., Bao, Y., Lin, Y., Zhang, X., Xu, D., Xiang, Z., Li, J., Zhang, Y., & Yu, Z. (2020). Opsonic character of the plasma proteins in phagocytosis-dependent host response to bacterial infection in a marine invertebrate, *Crassostrea gigas*. *Developmental and comparative immunology*, 106, 103596. <https://doi.org/10.1016/j.dci.2019.103596>
- Marshall, J. S., Warrington, R., Watson, W., & Kim, H. L. (2018). An introduction to immunology and immunopathology. *Allergy, Asthma & Clinical Immunology*, 14(S2). <https://doi.org/10.1186/s13223-018-0278-1>



- Masucci, M. T., Minopoli, M., Del Vecchio, S., & Carriero, M. V. (2020). The emerging role of neutrophil extracellular traps (nets) in tumor progression and metastasis. *Frontiers in Immunology*, 11. <https://doi.org/10.3389/fimmu.2020.01749>
- McKenna, E., Mhaonaigh, A. U., Wubben, R., Dwivedi, A., Hurley, T., Kelly, L. A., Stevenson, N. J., Little, M. A., & Molloy, E. J. (2021). Neutrophils: Need for Standardized Nomenclature. *Frontiers in immunology*, 12, 602963. <https://doi.org/10.3389/fimmu.2021.602963>
- Metzemaekers, M., Gouwy, M., & Proost, P. (2020). Neutrophil chemoattractant receptors in health and disease: double-edged swords. *Cellular & molecular immunology*, 17(5), 433–450. <https://doi.org/10.1038/s41423-020-0412-0>
- Mittal, M., Siddiqui, M. R., Tran, K., Reddy, S. P., & Malik, A. B. (2014). Reactive oxygen species in inflammation and tissue injury. *Antioxidants & redox signaling*, 20(7), 1126–1167. <https://doi.org/10.1089/ars.2012.5149>
- Mócsai, A., Walzog, B., & Lowell, C. A. (2015). Intracellular signaling during neutrophil recruitment. *Cardiovascular Research*, 107(3), 373–385. <https://doi.org/10.1093/cvr/cvv159>
- Mohammadi, Z., Shalavi, S., & Jafarzadeh, H. (2013). Ethylenediaminetetraacetic acid in endodontics. *European journal of dentistry*, 7(Suppl 1), S135–S142. <https://doi.org/10.4103/1305-7456.119091>
- Mol, S., Hafkamp, F. M. J., Varela, L., Simkhada, N., Taanman-Kueter, E. W., Tas, S. W., Wauben, M. H. M., Groot Kormelink, T., & de Jong, E. C. (2021). Efficient Neutrophil Activation Requires Two Simultaneous Activating Stimuli. *International journal of molecular sciences*, 22(18), 10106. <https://doi.org/10.3390/ijms221810106>
- Mollinedo, F. (2019). Neutrophil degranulation, plasticity, and cancer metastasis. *Trends in Immunology*, 40(3), 228–242. <https://doi.org/10.1016/j.it.2019.01.006>
- Mota, F. A. R., Pereira, S. A. P., Araujo, A. R. T. S., & Saraiva, M. L. M. F. S. (2021). Evaluation of Ionic Liquids and Ionic Liquids Active Pharmaceutical Ingredients Inhibition in Elastase Enzyme Activity. *Molecules (Basel, Switzerland)*, 26(1), 200. <https://doi.org/10.3390/molecules26010200>
- Nguyen, G. T., Green, E. R., & Meccas, 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>
- Nkuna, R., Ijoma, G. N., & Matambo, T. S. (2022). Applying EDTA in Chelating Excess Metal Ions to Improve Downstream DNA Recovery from Mine Tailings for Long-Read Amplicon Sequencing of Acidophilic Fungi Communities. *Journal of fungi (Basel, Switzerland)*, 8(5), 419. <https://doi.org/10.3390/jof8050419>

- Okubo, K., Kamiya, M., Urano, Y., Nishi, H., Herter, J. M., Mayadas, T., Hirohama, D., Suzuki, K., Kawakami, H., Tanaka, M., Kurosawa, M., Kagaya, S., Hishikawa, K., Nangaku, M., Fujita, T., Hayashi, M., & Hirahashi, J. (2016). Lactoferrin suppresses neutrophil extracellular traps release in inflammation. *eBioMedicine*, 10, 204–215. <https://doi.org/10.1016/j.ebiom.2016.07.012>
- Oskarsson, G. R., Magnusson, M. K., Oddsson, A., Jensson, B. O., Fridriksdottir, R., Arnadottir, G. A., Katrinardottir, H., Rognvaldsson, S., Halldorsson, G. H., Sveinbjornsson, G., Ivarsdottir, E. V., Stefansdottir, L., Ferkingstad, E., Norland, K., Tragante, V., Saemundsdottir, J., Jonasdottir, A., Jonasdottir, A., Sigurjonsdottir, S., ... Stefansson, K. (2022). Genetic architecture of band Neutrophil Fraction in Iceland. *Communications Biology*, 5(1). <https://doi.org/10.1038/s42003-022-03462-1>
- 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>
- Paiva, C. N., & Bozza, M. T. (2014). Are reactive oxygen species always detrimental to pathogens?. *Antioxidants & redox signaling*, 20(6), 1000–1037. <https://doi.org/10.1089/ars.2013.5447>
- Panday, A., Sahoo, M. K., Osorio, D., & Batra, S. (2015). NADPH oxidases: an overview from structure to innate immunity-associated pathologies. *Cellular & molecular immunology*, 12(1), 5–23. <https://doi.org/10.1038/cmi.2014.89>
- Parker, H., & Winterbourn, C. C. (2013). Reactive oxidants and myeloperoxidase and their involvement in neutrophil extracellular traps. *Frontiers in immunology*, 3, 424. <https://doi.org/10.3389/fimmu.2012.00424>
- Petretto, A., Bruschi, M., Pratesi, F., Croia, C., Candiano, G., Ghiggeri, G., & Migliorini, P. (2019). Neutrophil extracellular traps (NET) induced by different stimuli: A comparative proteomic analysis. *PloS one*, 14(7), e0218946. <https://doi.org/10.1371/journal.pone.0218946>
- Pettit, R. S., & Fellner, C. (2014). CFTR Modulators for the Treatment of Cystic Fibrosis. *P & T : a peer-reviewed journal for formulary management*, 39(7), 500–511.
- Pulikkot, S., Hu, L., Chen, Y., Sun, H., & Fan, Z. (2022). Integrin Regulators in Neutrophils. *Cells*, 11(13), 2025. <https://doi.org/10.3390/cells11132025>
- Ramsey, B. W., Davies, J., McElvaney, N. G., Tullis, E., Bell, S. C., Dřevínek, P., Griese, M., McKone, E. F., Wainwright, C. E., Konstan, M. W., Moss, R., Ratjen, F., Sermet-Gaudelus, I., Rowe, S. M., Dong, Q., Rodriguez, S., Yen, K., Ordoñez, C., Elborn, J. S., & VX08-770-102 Study Group (2011). A CFTR potentiator in patients with cystic fibrosis and the G551D mutation. *The New England journal of medicine*, 365(18), 1663–1672. <https://doi.org/10.1056/NEJMoa1105185>

- Rawat, K., Syeda, S., & Shrivastava, A. (2021). Neutrophil-derived granule cargoes: paving the way for tumor growth and progression. *Cancer metastasis reviews*, 40(1), 221–244. <https://doi.org/10.1007/s10555-020-09951-1>
- Ridyard, K. E., & Overhage, J. (2021). The Potential of Human Peptide LL-37 as an Antimicrobial and Anti-Biofilm Agent. *Antibiotics (Basel, Switzerland)*, 10(6), 650. <https://doi.org/10.3390/antibiotics10060650>
- Rimessi, A., Vitto, V. A. M., Patergnani, S., & Pinton, P. (2021). Update on Calcium Signaling in Cystic Fibrosis Lung Disease. *Frontiers in pharmacology*, 12, 581645. <https://doi.org/10.3389/fphar.2021.581645>
- Rodríguez-Fernández, J. L., & Criado-García, O. (2022). A meta-analysis indicates that the regulation of cell motility is a non-intrinsic function of chemoattractant receptors that is governed independently of directional sensing. *Frontiers in Immunology*, 13. <https://doi.org/10.3389/fimmu.2022.1001086>
- Rosales, C., & Uribe-Querol, E. (2017). Phagocytosis: A Fundamental Process in Immunity. *BioMed research international*, 2017, 9042851. <https://doi.org/10.1155/2017/9042851>
- Roth, B. L., Poot, M., Yue, S. T., & Millard, P. J. (1997). Bacterial viability and antibiotic susceptibility testing with Sytox Green Nucleic acid stain. *Applied and Environmental Microbiology*, 63(6), 2421–2431. <https://doi.org/10.1128/aem.63.6.2421-2431.1997>
- Saint-Criq, V., & Gray, M. A. (2016). Role of CFTR in epithelial physiology. *Cellular and Molecular Life Sciences*, 74(1), 93–115. <https://doi.org/10.1007/s00018-016-2391-y>
- Salamah, M. F., Ravishankar, D., Vaiyapuri, R., Moraes, L. A., Patel, K., Perretti, M., Gibbins, J. M., & Vaiyapuri, S. (2019). The formyl peptide fMLF primes platelet activation and augments thrombus formation. *Journal of thrombosis and haemostasis : JTH*, 17(7), 1120–1133. <https://doi.org/10.1111/jth.14466>
- Sasawatari, S., Yoshizaki, M., Taya, C., Tazawa, A., Furuyama-Tanaka, K., Yonekawa, H., Dohi, T., Makrigiannis, A. P., Sasazuki, T., Inaba, K., & Toyama-Sorimachi, N. (2010). The Ly49Q receptor plays a crucial role in neutrophil polarization and migration by regulating raft trafficking. *Immunity*, 32(2), 200–213. <https://doi.org/10.1016/j.immuni.2010.01.012>
- Scapini, P., & Cassatella, M. A. (2014). Social networking of human neutrophils within the immune system. *Blood*, 124(5), 710–719. <https://doi.org/10.1182/blood-2014-03-453217>
- Schepetkin, I. A., Khlebnikov, A. I., Kirpotina, L. N., & Quinn, M. T. (2016). Antagonism of human formyl peptide receptor 1 with natural compounds and their synthetic derivatives. *International immunopharmacology*, 37, 43–58. <https://doi.org/10.1016/j.intimp.2015.08.036>

- Schoen, J., Euler, M., Schauer, C., Schett, G., Herrmann, M., Knopf, J., & Yaykasli, K. O. (2022). Neutrophils' Extracellular Trap Mechanisms: From Physiology to Pathology. *International journal of molecular sciences*, 23(21), 12855. <https://doi.org/10.3390/ijms232112855>
- Schröder, K. (2020). NADPH oxidases: Current aspects and Tools. *Redox Biology*, 34, 101512. <https://doi.org/10.1016/j.redox.2020.101512>
- Shabnam, I., D S, C., & B C, J. (2014). Ethylenediaminetetraacetic Acid (EDTA) - dependent pseudothrombocytopenia: a case report. *Journal of clinical and diagnostic research : JCDR*, 8(10), FL03–FL4. <https://doi.org/10.7860/JCDR/2014/9603.5019>
- Sheshachalam, A., Srivastava, N., Mitchell, T., Lacy, P., & Eitzen, G. (2014). Granule protein processing and regulated secretion in neutrophils. *Frontiers in immunology*, 5, 448. <https://doi.org/10.3389/fimmu.2014.00448>
- Sinden, N. J., Baker, M. J., Smith, D. J., Kreft, J. U., Dafforn, T. R., & Stockley, R. A. (2015).  $\alpha$ -1-antitrypsin variants and the proteinase/antiproteinase imbalance in chronic obstructive pulmonary disease. *American journal of physiology. Lung cellular and molecular physiology*, 308(2), L179–L190. <https://doi.org/10.1152/ajplung.00179.2014>
- Sinenko, S. A., Starkova, T. Y., Kuzmin, A. A., & Tomilin, A. N. (2021). Physiological Signaling Functions of Reactive Oxygen Species in Stem Cells: From Flies to Man. *Frontiers in cell and developmental biology*, 9, 714370. <https://doi.org/10.3389/fcell.2021.714370>
- Skubitz, K. M., Campbell, K. D., & Skubitz, A. P. N. (2000). CD63 associates with CD11/CD18 in large detergent-resistant complexes after translocation to the cell surface in human neutrophils. *FEBS Letters*, 469(1), 52–56. [https://doi.org/10.1016/s0014-5793\(00\)01240-0](https://doi.org/10.1016/s0014-5793(00)01240-0)
- Stocks, S. C., Kerr, M. A., Haslett, C., & Dransfield, I. (1995). CD66-dependent neutrophil activation: a possible mechanism for vascular selectin-mediated regulation of neutrophil adhesion. *Journal of leukocyte biology*, 58(1), 40–48. <https://doi.org/10.1002/jlb.58.1.40>
- 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>
- Tahara, E., Kadara, H., Lacroix, L., Lotan, D., & Lotan, R. (2009). Activation of protein kinase C by phorbol 12-myristate 13-acetate suppresses the growth of lung cancer cells through KLF6 induction. *Cancer biology & therapy*, 8(9), 801–807. <https://doi.org/10.4161/cbt.8.9.8186>
- Tanaka, K., Koike, Y., Shimura, T., Okigami, M., Ide, S., Toiyama, Y., Okugawa, Y., Inoue, Y., Araki, T., Uchida, K., Mohri, Y., Mizoguchi, A., & Kusunoki, M. (2014). In vivo characterization of neutrophil extracellular traps in various organs of a murine sepsis model. *PloS one*, 9(11), e111888. <https://doi.org/10.1371/journal.pone.0111888>

- Teng, T. S., Ji, A. L., Ji, X. Y., & Li, Y. Z. (2017). Neutrophils and Immunity: From Bactericidal Action to Being Conquered. *Journal of immunology research*, 2017, 9671604. <https://doi.org/10.1155/2017/9671604>
- Tranah, T. H., Vijay, G. K. M., Ryan, J. M., Abeles, R. D., Middleton, P. K., & Shawcross, D. L. (2017). Dysfunctional neutrophil effector organelle mobilization and microbicidal protein release in alcohol-related cirrhosis. *American journal of physiology. Gastrointestinal and liver physiology*, 313(3), G203–G211. <https://doi.org/10.1152/ajpgi.00112.2016>
- Tsai, F. C., Kuo, G. H., Chang, S. W., & Tsai, P. J. (2015). Ca<sup>2+</sup> signaling in cytoskeletal reorganization, cell migration, and cancer metastasis. *BioMed research international*, 2015, 409245. <https://doi.org/10.1155/2015/409245>
- Uy, B., McGlashan, S. R., & Shaikh, S. B. (2011). Measurement of reactive oxygen species in the culture media using Acridan Lumigen PS-3 assay. *Journal of biomolecular techniques : JBT*, 22(3), 95–107.
- van Eeden, S. F., Klut, M. E., Walker, B. A., & Hogg, J. C. (1999). The use of flow cytometry to measure neutrophil function. *Journal of immunological methods*, 232(1-2), 23–43. [https://doi.org/10.1016/s0022-1759\(99\)00148-9](https://doi.org/10.1016/s0022-1759(99)00148-9)
- van der Linden, M., Westerlaken, G. H. A., van der Vlist, M., van Montfrans, J., & Meyaard, L. (2017). Differential Signalling and Kinetics of Neutrophil Extracellular Trap Release Revealed by Quantitative Live Imaging. *Scientific reports*, 7(1), 6529. <https://doi.org/10.1038/s41598-017-06901-w>
- Vatansever, F., de Melo, W. C., Avci, P., Vecchio, D., Sadasivam, M., Gupta, A., Chandran, R., Karimi, M., Parizotto, N. A., Yin, R., Tegos, G. P., & Hamblin, M. R. (2013). Antimicrobial strategies centered around reactive oxygen species--bactericidal antibiotics, photodynamic therapy, and beyond. *FEMS microbiology reviews*, 37(6), 955–989. <https://doi.org/10.1111/1574-6976.12026>
- Vermot, A., Petit-Härtlein, I., Smith, S. M. E., & Fieschi, F. (2021). NADPH Oxidases (NOX): An Overview from Discovery, Molecular Mechanisms to Physiology and Pathology. *Antioxidants (Basel, Switzerland)*, 10(6), 890. <https://doi.org/10.3390/antiox10060890>
- Vono, M., Lin, A., Norrby-Teglund, A., Koup, R. A., Liang, F., & Loré, K. (2017). Neutrophils acquire the capacity for antigen presentation to memory CD4<sup>+</sup> T cells in vitro and ex vivo. *Blood*, 129(14), 1991–2001. <https://doi.org/10.1182/blood-2016-10-744441>
- Vorobjeva, N. V., & Chernyak, B. V. (2020). NETosis: Molecular Mechanisms, Role in Physiology and Pathology. *Biochemistry. Biokhimiia*, 85(10), 1178–1190. <https://doi.org/10.1134/S0006297920100065>

- Wang, Y., Zagorevski, D. V., & Stenken, J. A. (2008). In situ and multisubstrate detection of elastase enzymatic activity external to microdialysis sampling probes using LC-ESI-MS. *Analytical chemistry*, 80(6), 2050–2057. <https://doi.org/10.1021/ac702047w>
- Wilgus, T. A., Roy, S., & McDaniel, J. C. (2013). Neutrophils and Wound Repair: Positive Actions and Negative Reactions. *Advances in wound care*, 2(7), 379–388. <https://doi.org/10.1089/wound.2012.0383>
- Wymann, M. P., von Tscherner, V., Deranleau, D. A., & Baggiolini, M. (1987). Chemiluminescence detection of H<sub>2</sub>O<sub>2</sub> produced by human neutrophils during the respiratory burst. *Analytical biochemistry*, 165(2), 371–378. [https://doi.org/10.1016/0003-2697\(87\)90284-3](https://doi.org/10.1016/0003-2697(87)90284-3)
- Xiao, Y., & Isaacs, S. N. (2012). Enzyme-linked immunosorbent assay (ELISA) and blocking with bovine serum albumin (BSA)--not all BSAs are alike. *Journal of immunological methods*, 384(1-2), 148–151. <https://doi.org/10.1016/j.jim.2012.06.009>
- Yabluchanskiy, A., Ma, Y., Iyer, R. P., Hall, M. E., & Lindsey, M. L. (2013). Matrix metalloproteinase-9: Many shades of function in cardiovascular disease. *Physiology (Bethesda, Md.)*, 28(6), 391–403. <https://doi.org/10.1152/physiol.00029.2013>
- Yang, L., Jin, M., Du, P., Chen, G., Zhang, C., Wang, J., Jin, F., Shao, H., She, Y., Wang, S., Zheng, L., & Wang, J. (2015). Study on Enhancement Principle and Stabilization for the Luminol-H<sub>2</sub>O<sub>2</sub>-HRP Chemiluminescence System. *PloS one*, 10(7), e0131193. <https://doi.org/10.1371/journal.pone.0131193>
- Yoshida, K., Kondo, R., Wang, Q., & Doerschuk, C. M. (2006). Neutrophil cytoskeletal rearrangements during capillary sequestration in bacterial pneumonia in rats. *American journal of respiratory and critical care medicine*, 174(6), 689-698.
- Zeng, W., Song, Y., Wang, R., He, R., & Wang, T. (2023). Neutrophil elastase: From mechanisms to therapeutic potential. *Journal of pharmaceutical analysis*, 13(4), 355–366. <https://doi.org/10.1016/j.jpha.2022.12.003>
- Zhang, K., Dai, Z., Zhang, W., Gao, Q., Dai, Y., Xia, F., & Zhang, X. (2021). EDTA-based adsorbents for the removal of metal ions in wastewater. *Coordination Chemistry Reviews*, 434, 213809. <https://doi.org/10.1016/j.ccr.2021.213809>
- Zhu, H., Jia, Z., Trush, M. A., & Li, Y. R. (2016). A Highly Sensitive Chemiluminometric Assay for Real-Time Detection of Biological Hydrogen Peroxide Formation. *Reactive oxygen species (Apex, N.C.)*, 1(3), 216–227. <https://doi.org/10.20455/ros.2016.841>
- Zhu, J., Li, L., Ding, J., Huang, J., Shao, A., & Tang, B. (2021). The Role of Formyl Peptide Receptors in Neurological Diseases via Regulating Inflammation. *Frontiers in cellular neuroscience*, 15, 753832. <https://doi.org/10.3389/fncel.2021.753832>

Zielonka, J., & Kalyanaraman, B. (2018). Small-molecule luminescent probes for the detection of cellular oxidizing and nitrating species. *Free radical biology & medicine*, 128, 3–22. <https://doi.org/10.1016/j.freeradbiomed.2018.03.032>