

REFERENCES

- Ahmed, N. H., and Samantaray, J. C. (2014). Quantitative buffy coat analysis-an effective tool for diagnosing blood parasites. *Journal of Clinical and Diagnostic Research*, 8(4), 110095. <https://doi.org/10.7860/JCDR/2014/7559.4258>
- Amorim, K. N. S., Chagas, D. C. G., Sulczewski, F. B., and Boscardin, S. B. (2016). *Dendritic Cells and Their Multiple Roles during Malaria Infection*. 2016. <https://doi.org/10.1155/2016/2926436>
- Anchang-Kimbi, J. K., Achidi, E. A., Nkegoum, B., Mendimi, J. M. N., Sverremark-Ekström, E., and Troye-Blomberg, M. (2016). IgG isotypic antibodies to crude plasmodium falciparum blood-stage antigen associated with placental malaria infection in parturient cameroonian women. *African Health Sciences*, 16(4), 1007–1017. <https://doi.org/10.4314/ahs.v16i4.17>
- Anne, J., Freya, C., and James, J. I. F. (2014). *Surface antigens of Plasmodium falciparum - infected erythrocytes as immune targets and malaria vaccine candidates*. 3633–3657. <https://doi.org/10.1007/s00018-014-1614-3>
- Arévalo-herrera, M., Solarte, Y., Marin, C., Santos, M., Beier, J. C., and Valencia, S. H. (2016). *vaccines for interrupting malaria transmission in Latin America*. 106(Suppl 1), 202–211.
- Arévalo-Herrera, M., Solarte, Y., Marin, C., Santos, M., Castellanos, J., Beier, J. C., and Valencia, S. H. (2011). Malaria transmission blocking immunity and sexual stage vaccines for interrupting malaria transmission in Latin America. *Memorias Do Instituto Oswaldo Cruz*, 106(SUPPL. 1), 202–211. <https://doi.org/10.1590/S0074-02762011000900025>
- Arifin, W. N., and Zahruddin, W. M. (2017). *Sample Size Calculation in Animal Studies Using Resource Equation Approach*. 24(5), 101–105.
- Autino, B., Noris, A., Russo, R., and Castelli, F. (2012). Epidemiology of malaria in endemic areas. *Mediterranean Journal of Hematology and Infectious Diseases*, 4(1). <https://doi.org/10.4084/MJHID.2012.060>
- Baird, J. K. (2011). 2 - Malaria Distribution, Prevalence, Drug Resistance and Control in Indonesia. In *Advances in Parasitology* (1st ed., Vol. 74). Elsevier Ltd. <https://doi.org/10.1016/B978-0-12-385897-9.00002-1>
- Baker, D. A. (2010). Malaria gametocytogenesis. *Molecular and Biochemical Parasitology*, 172(2), 57–65. <https://doi.org/10.1016/j.molbiopara.2010.03.019>

- Baptista, F. G., Pamplona, A., Pena, A. C., Mota, M. M., Pied, S., and Vigário, A. M. (2010). Accumulation of *Plasmodium berghei*-infected red blood cells in the brain is crucial for the development of cerebral malaria in mice. *Infection and Immunity*, 78(9), 4033–4039. <https://doi.org/10.1128/IAI.00079-10>
- Basir, R., Rahiman, S. S. F., Hasballah, K., Chong, W. C., Talib, H., Yam, M. F., Jabbarzare, M., Tie, T. H., Othman, F., Moklas, M. A. M., Abdullah, W. O., and Ahmad, Z. (2012). *Plasmodium berghei* ANKA infection in ICR mice as a model of cerebral malaria. *Iranian Journal of Parasitology*, 7(4), 62–74.
- Baton, L. A., and Ranford-cartwright, L. C. (2005). *Do malaria ookinete surface proteins P25 and P28 mediate parasite entry into mosquito midgut epithelial cells ?* 8, 1–8. <https://doi.org/10.1186/1475-2875-4-15>
- Baum, J., Richard, D., Healer, J., Rug, M., Krnajski, Z., Gilberger, T. W., Green, J. L., Holder, A. A., and Cowman, A. F. (2006). A conserved molecular motor drives cell invasion and gliding motility across malaria life cycle stages and other apicomplexan parasites. *Journal of Biological Chemistry*, 281(8), 5197–5208. <https://doi.org/10.1074/jbc.M509807200>
- Belachew, E. B. (2018). Immune Response and Evasion Mechanisms of *Plasmodium falciparum* Parasites. *Journal of Immunology Research*, 2018. <https://doi.org/10.1155/2018/6529681>
- Bendezu, J., Rosas, A., Grande, T., Rodriguez, H., Llanos-Cuentas, A., Escobedo, J., and Gamboa, D. (2010). Field evaluation of a rapid diagnostic test (Parascreen™) for malaria diagnosis in the Peruvian Amazon. *Malaria Journal*, 9(1), 4–9. <https://doi.org/10.1186/1475-2875-9-154>
- Blagborough, A. M., Musiyuchuk, K., Bi, H., Jones, R. M., Chichester, J. A., Streatfield, S., Sala, K. A., Zakutansky, S. E., Upton, L. M., Sinden, R. E., Brian, I., Biswas, S., Sattabonkot, J., and Yusibov, V. (2016). Transmission blocking potency and immunogenicity of a plant-produced Pvs25-based subunit vaccine against *Plasmodium vivax*. *Vaccine*, 34(28), 3252–3259. <https://doi.org/10.1016/j.vaccine.2016.05.007>
- Blagborough, Andrew M, and Sinden, R. E. (2009). *Plasmodium berghei* HAP2 induces strong malaria transmission-blocking immunity in vivo and in vitro. 27, 5187–5194. <https://doi.org/10.1016/j.vaccine.2009.06.069>
- Boddey, J. A., and Cowman, A. F. (2013). *Plasmodium* nesting: Remaking the erythrocyte from the inside out. *Annual Review of Microbiology*, 67, 243–269. <https://doi.org/10.1146/annurev-micro-092412-155730>

- Bongfen, S. E., Torgler, R., and Romero, J. F. (2017). *Plasmodium berghei* -Infected Primary Hepatocytes Process and Present the Circumsporozoite Protein to Specific CD8 + T Cells In Vitro. July 2007. <https://doi.org/10.4049/jimmunol.178.11.7054>
- Bosch, J., Buscaglia, C. A., Krumm, B., Ingason, B. P., Lucas, R., Roach, C., Cardozo, T., Nussenzweig, V., and Hol, W. G. J. (2007). Aldolase provides an unusual binding site for thrombospondin-related anonymous protein in the invasion machinery of the malaria parasite. *Proceedings of the National Academy of Sciences of the United States of America*, 104(17), 7015–7020. <https://doi.org/10.1073/pnas.0605301104>
- Boundenga, L., Ngoubangoye, B., Ntie, S., Moukodoum, N. D., Renaud, F., Rougeron, V., and Prugnolle, F. (2019). Rodent malaria in Gabon: Diversity and host range. *International Journal for Parasitology: Parasites and Wildlife*, 10(July), 117–124. <https://doi.org/10.1016/j.ijppaw.2019.07.010>
- Bousema, T., Okell, L., Shekalaghe, S., Griffin, J. T., Omar, S., Sawa, P., Sutherland, C., Sauerwein, R., Ghani, A. C., and Drakeley, C. (2010). Revisiting the circulation time of *Plasmodium falciparum* gametocytes: molecular detection methods to estimate the duration of gametocyte carriage and the effect of gametocytocidal drugs. *Malaria Journal*, 9, 136. <https://doi.org/10.1186/1475-2875-9-136>
- Boutlis, C. S., Anstey, E. M. R. N. M., Souza, J. B. De, Street, C., and Wit, L. (2005). *Glycosylphosphatidylinositols in Malaria Pathogenesis and Immunity : Potential for Therapeutic Inhibition and Vaccination*. 145–185.
- Britton, S., Cheng, Q., and McCarthy, J. S. (2016). Novel molecular diagnostic tools for malaria elimination: A review of options from the point of view of high-throughput and applicability in resource limited settings. *Malaria Journal*, 15(1), 1–8. <https://doi.org/10.1186/s12936-016-1158-0>
- Brune, K. D., Leneghan, D. B., Brian, I. J., Ishizuka, A. S., Bachmann, M. F., Draper, S. J., Biswas, S., and Howarth, M. (2016). Plug-and-Display: decoration of Virus-Like Particles via isopeptide bonds for modular immunization. *Scientific Reports*, 6, 1–13. <https://doi.org/10.1038/srep19234>
- Burrack, K. S., Hart, G. T., and Hamilton, S. E. (2019). Contributions of natural killer cells to the immune response against *Plasmodium*. *Malaria Journal*, 1–9. <https://doi.org/10.1186/s12936-019-2953-1>
- Cao, Y., Hart, R. J., Bansal, G. P., and Kumar, N. (2018). *crossm Transmission Stages of Plasmodium vivax (Human Malaria*. 9(5), 1–14.

- Cecile, C., Bustamante, L. Y., Bartholdson, S. J., Bei, A. K., Theron, M., Uchikawa, M., Mboup, S., Ndir, O., Kwiatkowski, D. P., Duraisingh, M. T., Rayner, J. C., and Wright, G. J. (2012). Basigin is a receptor essential for erythrocyte invasion. *Nature*, 480(7378), 534–537. <https://doi.org/10.1038/nature10606>.BASIGIN
- Chu, C. S., and White, N. J. (2016). Management of relapsing *Plasmodium vivax* malaria. *Expert Review of Anti-Infective Therapy*, 14(10), 885–900. <https://doi.org/10.1080/14787210.2016.1220304>
- Cirimotich, C. M., Dong, Y., Garver, L. S., Sim, S., and Dimopoulos, G. (2010). *Mosquito immune defenses against Plasmodium infection*. 34, 387–395. <https://doi.org/10.1016/j.dci.2009.12.005>
- Coban, C., Ishii, K. J., Kawai, T., Hemmi, H., Sato, S., Uematsu, S., Yamamoto, M., Takeuchi, O., Itagaki, S., Kumar, N., Horii, T., and Akira, S. (2005). *Toll-like receptor 9 mediates innate immune activation by the malaria pigment hemozoin*. 201(1), 19–25. <https://doi.org/10.1084/jem.20041836>
- Cockburn, I. A., Amino, R., Kelemen, R. K., Kuo, S. C., Tse, S., and Radtke, A. (2013). *In vivo imaging of CD8 + T cell-mediated elimination of malaria liver stages*. 110(22), 2–7. <https://doi.org/10.1073/pnas.1303858110>
- Cowman, A. F., Healer, J., Marapana, D., and Marsh, K. (2016). Malaria: Biology and Disease. *Cell*, 167(3), 610–624. <https://doi.org/10.1016/j.cell.2016.07.055>
- Craig, A. G., Grau, G. E., Janse, C., Kazura, J. W., Milner, D., and Barnwell, J. W. (2012). *The Role of Animal Models for Research on Severe Malaria*. 8(2). <https://doi.org/10.1371/journal.ppat.1002401>
- Crompton, P. D., Moebius, J., Waisberg, M., Hart, G., Garver, L. S., Miller, L. H., Barillas, C., and Pierce, S. K. (n.d.). *Malaria Immunity in Man and Mosquito : Insights into Unsolved Mysteries of a Deadly Infectious Disease **. <https://doi.org/10.1146/annurev-immunol-032713-120220>
- Dantzler, K. W., and Jagannathan, P. (2018). *$\gamma\delta$ T Cells in Antimalarial Immunity : New Insights Into Their Diverse Functions in Protection and Tolerance*. 9(October), 1–14. <https://doi.org/10.3389/fimmu.2018.02445>
- Dehghan, H., Oshaghi, M. A., Mosa-Kazemi, S. H., Abai, M. R., Rafie, F., Nateghpour, M., Mohammadzadeh, H., Farivar, L., and Mohammadi Bavani, M. (2018). Experimental study on plasmodium berghei, anopheles stephensi, and BALB/c mouse system: Implications for malaria transmission blocking assays. *Iranian Journal of Parasitology*, 13(4), 549–559.

- Deroost, K., Pham, T. T., Opdenakker, G., and Van den Steen, P. E. (2016). The immunological balance between host and parasite in malaria. In *FEMS Microbiology Reviews* (Vol. 40, Issue 2). <https://doi.org/10.1093/femsre/fuv046>
- Djallé, D., Gody, J. C., Moyen, J. M., Tekpa, G., Ipero, J., Madji, N., Breurec, S., and Manirakiza, A. (2014). Performance of ParacheckTM-Pf, SD Bioline malaria Ag-Pf and SD Bioline malaria Ag-Pf/pan for diagnosis of falciparum malaria in the Central African Republic. *BMC Infectious Diseases*, 14(1), 1–7. <https://doi.org/10.1186/1471-2334-14-109>
- Doi, M., Tanabe, K., Tachibana, S. I., Hamai, M., Tachibana, M., Mita, T., Yagi, M., Zeyrek, F. Y., Ferreira, M. U., Ohmae, H., Kaneko, A., Randrianarivelosoa, M., Sattabongkot, J., Cao, Y. M., Horii, T., Torii, M., and Tsuboi, T. (2011). Worldwide sequence conservation of transmission-blocking vaccine candidate Pvs230 in *Plasmodium vivax*. *Vaccine*, 29(26), 4308–4315. <https://doi.org/10.1016/j.vaccine.2011.04.028>
- Dostert, C., Guarda, G., Romero, J. F., Menu, P., Gross, O., Tardivel, A., Suva, M., Stehle, J., Kopf, M., Stamenkovic, I., Corradin, G., and Tschopp, J. (2009). *Malarial Hemozoin Is a Nalp3 Inflammasome Activating Danger Signal*. 4(8), 1–10. <https://doi.org/10.1371/journal.pone.0006510>
- Draper, S. J., Sack, B. K., King, C. R., Nielsen, C. M., Rayner, J. C., Higgins, M. K., Long, C. A., and Seder, R. A. (2018). Review Malaria Vaccines : Recent Advances and New Horizons. *Cell Host and Microbe*, 24(1), 43–56. <https://doi.org/10.1016/j.chom.2018.06.008>
- Dups, J. N., Pepper, M., and Cockburn, I. A. (2014). *Antibody and B cell responses to Plasmodium sporozoites CHALLENGE*. 5(November), 1–7. <https://doi.org/10.3389/fmicb.2014.00625>
- Ellis, R. D., Sagara, I., Doumbo, O., and Wu, Y. (2010). Blood stage vaccines for *Plasmodium falciparum*: Current status and the way forward. *Human Vaccines*, 6(8), 627–634. <https://doi.org/10.4161/hv.6.8.11446>
- Epstein, J. E., Paolino, K. M., Richie, T. L., Sedegah, M., Singer, A., Ruben, A. J., Chakravarty, S., Stafford, A., Ruck, R. C., Eappen, A. G., Li, T., Billingsley, P. F., Manoj, A., Silva, J. C., Moser, K., Nielsen, R., Tosh, D., Cicatelli, S., Ganeshan, H., ... Hoffman, S. L. (2017). Protection against *Plasmodium falciparum* malaria by PfSPZ Vaccine. *JCI Insight*, 2(1), 0–14. <https://doi.org/10.1172/jci.insight.89154>
- Espinosa, D. A., Gutierrez, G. M., Rojas-Lopez, M., Noe, A. R., Shi, L., Tse, S. W., Sinnis, P., and Zavala, F. (2015). Proteolytic Cleavage of the *Plasmodium*

- falciparum Circumsporozoite Protein Is a Target of Protective Antibodies. *Journal of Infectious Diseases*, 212(7), 1111–1119. <https://doi.org/10.1093/infdis/jiv154>
- Fajardo, S., García-Galvan, R., F., Barranco, V., Galvan, J. C., and Batlle, S. F. (2016). We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists TOP 1%. *Intech, i(tourism)*, 13. <https://doi.org/http://dx.doi.org/10.5772/57353>
- Franke-fayard, B., Fonager, J., Braks, A., Khan, S. M., and Janse, C. J. (2013). *Sequestration and Tissue Accumulation of Human Malaria Parasites: Can We Learn Anything from Rodent Models of Malaria?* 6(9). <https://doi.org/10.1371/journal.ppat.1001032>
- Fransisca, L., Kusnanto, J. H., Satoto, T. B. T., Sebayang, B., Supriyanto, Andriyan, E., and Bangs, M. J. (2015). Comparison of rapid diagnostic test Plasmodium falciparum-3, microscopy, and quantitative real-time PCR for diagnoses of Plasmodium falciparum and Plasmodium vivax infections in Mimika Regency, Papua, Indonesia. *Malaria Journal*, 14(1), 1–11. <https://doi.org/10.1186/s12936-015-0615-5>
- Frech, C., and Chen, N. (2013). *Variant surface antigens of malaria parasites: functional and evolutionary insights from comparative gene family classification and analysis*. 1–23.
- Freeman, S. A. (2014). *Phagocytosis: receptors, signal integration, and the cytoskeleton*. 193–215.
- Frevert, U., Nardin, E., Cd, V., and Cd, T. (2008). *Microreview Cellular effector mechanisms against Plasmodium liver stages*. 10(August), 1956–1967. <https://doi.org/10.1111/j.1462-5822.2008.01211.x>
- Friends, T. V. O. (2019). *crossm*. April, 1–19.
- Garcia, L. (2001). *Determination of Parasitemia Protocol*. 1–4.
- Gazzinelli, R. T., Kalantari, P., and Fitzgerald, K. A. (2014). Innate sensing of malaria parasites. *Nature Publishing Group*, October, 1–14. <https://doi.org/10.1038/nri3742>
- Gething, P. W., Casey, D. C., Weiss, D. J., Bisanzio, D., Bhatt, S., Cameron, E., Battle, K. E., Dalrymple, U., Rozier, J., Rao, P. C., Kutz, M. J., Barber, R. M., Huynh, C., Shackelford, K. A., Coates, M. M., Nguyen, G., Fraser, M. S., Kulikoff, R., Wang, H., ... Lim, S. S. (2016). Mapping plasmodium falciparum mortality in

- Africa between 1990 and 2015. *New England Journal of Medicine*, 375(25), 2435–2445. <https://doi.org/10.1056/NEJMoa1606701>
- Goel, S., Palmkvist, M., Moll, K., Joannin, N., Lara, P., Akhouri, R. R., Moradi, N., Öjemalm, K., Westman, M., Angeletti, D., Kjellin, H., Lehtiö, J., Blixt, O., Idestrom, L., Gahmberg, C. G., Storry, J. R., Hult, A. K., and Olsson, M. L. (2015). *RIFINs are adhesins implicated in severe Plasmodium falciparum malaria. March*. <https://doi.org/10.1038/nm.3812>
- Gowda, C. (2015). *Protein – DNA Complex Is the Exclusive Malaria Parasite Component That Activates Dendritic Cells and Triggers Innate Immune Responses*. <https://doi.org/10.4049/jimmunol.0903824>
- Gowda, D. C., and Wu, X. (2018a). Parasite Recognition and Signaling Mechanisms in Innate Immune Responses to Malaria. *Frontiers in Immunology*, 9(December), 3006. <https://doi.org/10.3389/fimmu.2018.03006>
- Gowda, D. C., and Wu, X. (2018b). *Parasite Recognition and Signaling Mechanisms in Innate Immune Responses to Malaria*. 9(December), 1–17. <https://doi.org/10.3389/fimmu.2018.03006>
- Gowda, N. M., Wu, X., and Gowda, D. C. (2011). *The Nucleosome (Histone-DNA Complex) Is the TLR9- Specific Immunostimulatory Component of Plasmodium falciparum That Activates DCs*. 6(6). <https://doi.org/10.1371/journal.pone.0020398>
- Greenwood, B. M., Fidock, D. A., Kyle, D. E., Kappe, S. H. I., Alonso, P. L., Collins, F. H., and Duffy, P. E. (2008). Malaria : progress , perils , and prospects for eradication Find the latest version : Review series Malaria : progress , perils , and prospects for eradication. *The Journal of Clinical Investigation*, 118(4), 1266–1276. <https://doi.org/10.1172/JCI33996.1266>
- H. Arwati, Kusmartisnawati, Y. P. D. (2009). *14.5 kDa protein of plasmodium falciparum is a specific asexual stage antigen recognized by pooled of mouse immune sera*. 45(2), 93–96.
- Haddad, D., Maciel, J., and Kumar, N. (2006). Infection with Plasmodium berghei boosts antibody responses primed by a DNA vaccine encoding gametocyte antigen Pbs48/45. *Infection and Immunity*, 74(4), 2043–2051. <https://doi.org/10.1128/IAI.74.4.2043-2051.2006>
- Hafalla, J. C. (2011). *Cell biology and immunology of malaria*. 240, 297–316.
- Haque, A., and Engwerda, C. (2014). Hepatocytes break the silence during liver-stage

- malaria. *Nature Publishing Group*, 20(1), 17–19. <https://doi.org/10.1038/nm.3446>
- Healer, J., Cowman, A. F., Kaslow, D. C., and Birkett, A. J. (2019). *Vaccines to Accelerate Malaria Elimination and Eventual Eradication*. 1–18.
- Horne-debets, J. M., Faleiro, R., Karunaratne, D. S., Liu, X. Q., Lineburg, K. E., Poh, C. M., Grotenbreg, G. M., Hill, G. R., Macdonald, K. P. A., Good, M. F., Renia, L., Ahmed, R., Sharpe, A. H., and Wykes, M. N. (2013). Report PD-1 Dependent Exhaustion of CD8 + T Cells Drives Chronic Malaria. *Cell Reports*, 5(5), 1204–1213. <https://doi.org/10.1016/j.celrep.2013.11.002>
- Huskey, S. E. W., Zhu, C. Q., Fredenhagen, A., Kühnöl, J., Luneau, A., Jian, Z., Yang, Z., Miao, Z., Yang, F., Jain, J. P., Sunkara, G., Mangold, J. B., and Stein, D. S. (2016). KAE609 (Cipargamin), a new spiroindolone agent for the treatment of malaria: Evaluation of the absorption, distribution, metabolism, and excretion of a single oral 300-mg dose of [14C]KAE609 in healthy male subjects. *Drug Metabolism and Disposition*, 44(5), 672–682. <https://doi.org/10.1124/dmd.115.069187>
- Ilinskaya, A. N., and Dobrovolskaia, M. A. (2016). Understanding the immunogenicity and antigenicity of nanomaterials: Past, present and future. *Toxicology and Applied Pharmacology*, 299, 70–77. <https://doi.org/10.1016/j.taap.2016.01.005>
- Janssen, C. S., Phillips, R. S., Turner, C. M. R., and Barrett, M. P. (2004). *Plasmodium interspersed repeats: the major multigene superfamily of malaria parasites*. 32(19), 5712–5720. <https://doi.org/10.1093/nar/gkh907>
- Jiang, L., Gaur, D., Mu, J., Zhou, H., Long, C. A., and Miller, L. H. (2011). *Evidence for erythrocyte-binding antigen 175 as a component of a ligand-blocking blood-stage malaria vaccine*. 6. <https://doi.org/10.1073/pnas.1104050108>
- Jiménez-Díaz, M. B., Ebert, D., Salinas, Y., Pradhan, A., Lehane, A. M., Myrand-Lapierre, M. E., O'Loughlin, K. G., Shackleford, D. M., De Almeida, M. J., Carrillo, A. K., Clark, J. A., Dennis, A. S. M., Diep, J., Deng, X., Duffy, S., Endsley, A. N., Fedewa, G., Guiguemde, W. A., Gómez, M. G., ... Guy, R. K. (2015). Erratum: (+)-SJ733, a clinical candidate for malaria that acts through ATP4 to induce rapid host-mediated clearance of Plasmodium (Proceedings of the National Academy of Sciences of the United States of America (2014) 111 (E5455-E5462) 1 DOI: 10.1073/pnas. *Proceedings of the National Academy of Sciences of the United States of America*, 112(42), E5764. <https://doi.org/10.1073/pnas.1518632112>
- Johnson, P. D., and Besselsen, D. G. (2002). *Practical Aspects of Experimental Design*

in Animal Research Experimental Design : Initial Steps.

- Jones, S., Grignard, L., Nebie, I., Cholongola, J., Roeffen, W., Kumar, S., Kumar, R., Drakeley, C., and Bousema, T. (2015). Naturally acquired antibody responses to transmission blocking vaccine candidates. *Journal of Infection*, April, 1–10. <https://doi.org/10.1016/j.jinf.2015.03.007>
- Kalantari, P. (2018). *The Emerging Role of Pattern Recognition Receptors in the Pathogenesis of Malaria*. <https://doi.org/10.3390/vaccines6010013>
- Kang, J. M., Ju, H. L., Moon, S. U., Cho, P. Y., Bahk, Y. Y., Sohn, W. M., Park, Y. K., Cha, S. H., Kim, T. S., and Na, B. K. (2013). Limited sequence polymorphisms of four transmission-blocking vaccine candidate antigens in *Plasmodium vivax* Korean isolates. *Malaria Journal*, 12(1), 1–7. <https://doi.org/10.1186/1475-2875-12-144>
- Kashosi, T. M., Mutuga, J. M., Byadunia, D. S., Mutendela, J. K., Mulenda, B., and Mubagwa, K. (2017). Performance of SD Bioline Malaria Ag Pf/Pan rapid test in the diagnosis of malaria in South-Kivu, DR Congo. *The Pan African Medical Journal*, 27, 216. <https://doi.org/10.11604/pamj.2017.27.216.11430>
- Kawai, T., and Akira, S. (2011). Review Toll-like Receptors and Their Crosstalk with Other Innate Receptors in Infection and Immunity. *Immunity*, 34(5), 637–650. <https://doi.org/10.1016/j.immuni.2011.05.006>
- Kawasaki, T., and Kawai, T. (2014). *Toll-like receptor signaling pathways*. 5(September), 1–9. <https://doi.org/10.3389/fimmu.2014.00461>
- Kebaier, C., Voza, T., and Vanderberg, J. (2009). Kinetics of mosquito-injected plasmodium sporozoites in mice: Fewer sporozoites are injected into sporozoite-immunized mice. *PLoS Pathogens*, 5(4). <https://doi.org/10.1371/journal.ppat.1000399>
- Kengne-Ouafo, J. A., Sutherland, C. J., Binka, F. N., Awandare, G. A., Urban, B. C., and Dinko, B. (2019). Immune responses to the sexual stages of *Plasmodium falciparum* parasites. *Frontiers in Immunology*, 10(FEB). <https://doi.org/10.3389/fimmu.2019.00136>
- Kou, X., Zheng, W., Du, F., Liu, F., Wang, M., Fan, Q., Cui, L., Luo, E., and Cao, Y. (2016). Characterization of a *Plasmodium berghei* sexual stage antigen PbPH as a new candidate for malaria transmission-blocking vaccine. *Parasites and Vectors*, 9(1), 1–11. <https://doi.org/10.1186/s13071-016-1459-8>
- Kusi, K. A., Manu, E. A., Gwira, T. M., Kyei-Baafour, E., Dickson, E. K., Amponsah,

- J. A., Remarque, E. J., Faber, B. W., Kocken, C. H. M., Dodoo, D., Gyan, B. A., Awandare, G. A., Atuguba, F., Oduro, A. R., and Koram, K. A. (2017). Variations in the quality of malaria-specific antibodies with transmission intensity in a seasonal malaria transmission area of Northern Ghana. *PLoS ONE*, 12(9), 1–19. <https://doi.org/10.1371/journal.pone.0185303>
- Lal, A. A., Patterson, P. S., Sacci, J. B., Vaughan, J. A., Paul, C., Collins, W. E., Wirtz, R. A., and Azad, A. F. (2001). Anti-mosquito midgut antibodies block development of *Plasmodium falciparum* and *Plasmodium vivax* in multiple species of *Anopheles* mosquitoes and reduce vector fecundity and survivorship. *Proceedings of the National Academy of Sciences of the United States of America*, 98(9), 5228–5233. <https://doi.org/10.1073/pnas.091447398>
- Lampouguin Yenkindiok-Douti¹, Gaspar E. Canepa¹, Ana-Beatriz F. Barletta¹, C. B.-M. (2019). *In vivo* Characterization of *Plasmodium berghei* P47 (Pbs47) as a Malaria Transmission-Blocking Vaccine Target. 47(July), 1–13. <https://doi.org/10.3389/fmicb.2020.01496>
- Langhorne, J., Ndungu, F. M., Sponaas, A., and Marsh, K. (2008). Immunity to malaria : more questions than answers. 9(7), 725–732. <https://doi.org/10.1038/nl.f.205>
- Lee, S. M., Wu, C. K., Plieskatt, J., McAdams, D. H., Miura, K., Ockenhouse, C., and King, C. R. (2016). Assessment of Pfs25 expressed from multiple soluble expression platforms for use as transmission-blocking vaccine candidates. *Malaria Journal*, 15(1), 1–12. <https://doi.org/10.1186/s12936-016-1464-6>
- Leneghan, D. B., Miura, K., Taylor, I. J., Li, Y., Jin, J., Brune, K. D., Bachmann, M. F., Howarth, M., Long, C. A., and Biswas, S. (2017). Nanoassembly routes stimulate conflicting antibody quantity and quality for transmission-blocking malaria vaccines. *Scientific Reports*, 7(1), 1–14. <https://doi.org/10.1038/s41598-017-03798-3>
- Lennartz, F., Brod, F., Dabbs, R., Miura, K., Mekhaieel, D., Marini, A., Jore, M. M., Sogaard, M. M., Jørgensen, T., de Jongh, W. A., Sauerwein, R. W., Long, C. A., Biswas, S., and Higgins, M. K. (2018). Structural basis for recognition of the malaria vaccine candidate Pfs48/45 by a transmission blocking antibody. *Nature Communications*, 9(1), 1–11. <https://doi.org/10.1038/s41467-018-06340-9>
- Leoratti, F. M. S., Durlacher, R. R., Lacerda, M. V. G., Alecrim, M. G., Ferreira, A. W., Sanchez, M. C. A., and Moraes, S. L. (2008). Pattern of humoral immune response to *Plasmodium falciparum* blood stages in individuals presenting different clinical expressions of malaria. 11, 1–11. <https://doi.org/10.1186/1475->

2875-7-186

- Liehl, P., Zuzarte-luís, V., Chan, J., Zillinger, T., Müller, M., Kalinke, U., Saeed, M., and Chora, A. F. (2014). *NIH Public Access*. 20(1), 47–53. <https://doi.org/10.1038/nm.3424>. Host-cell
- Lim, C., Pereira, L., Saliba, K. S., Mascarenhas, A., Maki, J. N., Chery, L., Gomes, E., Rathod, P. K., and Duraisingh, M. T. (2016). Reticulocyte Preference and Stage Development of *Plasmodium vivax* Isolates. *Journal of Infectious Diseases*, 214(7), 1081–1084. <https://doi.org/10.1093/infdis/jiw303>
- Liu, F., Li, L., Zheng, W., He, Y., Wang, Y., Zhu, X., Tsuboi, T., Cui, L., Wang, M., and Cao, Y. (2018). Characterization of *Plasmodium berghei* Pbg37 as both a pre- and postfertilization antigen with transmission-blocking potential. *Infection and Immunity*, 86(8). <https://doi.org/10.1128/IAI.00785-17>
- Liu, W., and Chen, Y. H. (2005). High epitope density in a single protein molecule significantly enhances antigenicity as well as immunogenicity: A novel strategy for modern vaccine development and a preliminary investigation about B cell discrimination of monomeric proteins. *European Journal of Immunology*, 35(2), 505–514. <https://doi.org/10.1002/eji.200425749>
- MacDonald, N. J., Nguyen, V., Shimp, R., Reiter, K., Herrera, R., Burkhardt, M., Muratova, O., Kumar, K., Aebig, J., Rausch, K., Lambert, L., Dawson, N., Sattabongkot, J., Ambroggio, X., Duffy, P. E., Wu, Y., and Narum, D. L. (2016). Structural and immunological characterization of recombinant 6-cysteine domains of the *plasmodium falciparum* sexual stage protein Pfs230. *Journal of Biological Chemistry*, 291(38), 19913–19922. <https://doi.org/10.1074/jbc.M116.732305>
- Mahmood, T., and Yang, P. C. (2012). Western blot: Technique, theory, and trouble shooting. *North American Journal of Medical Sciences*, 4(9), 429–434. <https://doi.org/10.4103/1947-2714.100998>
- Mahmoudi, S., and Keshavarz, H. (2018). Malaria vaccine development: The need for novel approaches: A review article. *Iranian Journal of Parasitology*, 13(1), 1–10.
- Maitland, K. (2016). Severe malaria in african children - The need for continuing investment. *New England Journal of Medicine*, 375(25), 2416–2417. <https://doi.org/10.1056/NEJMp1613528>
- Makanga, B., Yangari, P., Rahola, N., Rougeron, V., Elguero, E., Boundenga, L., Moukodoum, N. D., Okouga, A. P., Arnathau, C., Durand, P., Willaume, E., Ayala, D., Fontenille, D., Ayala, F. J., Renaud, F., Ollomo, B., Prugnolle, F., and Paupy, C. (2016). Ape malaria transmission and potential for ape-to-human

- transfers in Africa. *Proceedings of the National Academy of Sciences of the United States of America*, 113(19), 5329–5334. <https://doi.org/10.1073/pnas.1603008113>
- Margos, G., Navarette, S., Butcher, G., Davies, A., Willers, C., Sinden, R. E., and Lachmann, P. J. (2001). *Interaction between Host Complement and Mosquito-Midgut-Stage Plasmodium berghei*. 69(8), 5064–5071. <https://doi.org/10.1128/IAI.69.8.5064>
- Marin-Mogollon, C., van de Vegte-Bolmer, M., van Gemert, G. J., van Pul, F. J. A., Ramesar, J., Othman, A. S., Kroeze, H., Miao, J., Cui, L., Williamson, K. C., Sauerwein, R. W., Janse, C. J., and Khan, S. M. (2018). The Plasmodium falciparum male gametocyte protein P230p, a paralog of P230, is vital for ookinete formation and mosquito transmission. *Scientific Reports*, 8(1), 1–13. <https://doi.org/10.1038/s41598-018-33236-x>
- Marsh, K., and Kinyanjui, S. (2006). *Immune effector mechanisms in malaria*. June 2005, 51–60.
- Mayer, D. C. G., Cofie, J., Jiang, L., Hartl, D. L., Tracy, E., Kabat, J., Mendoza, L. H., and Miller, L. H. (2009). Glycophorin B is the erythrocyte receptor of Plasmodium falciparum erythrocyte-binding ligand, EBL-1. *Proceedings of the National Academy of Sciences of the United States of America*, 106(13), 5348–5352. <https://doi.org/10.1073/pnas.0900878106>
- Mccall, M. B. B., and Sauerwein, R. W. (2010). *Interferon- γ — central mediator of protective immune responses against the pre-erythrocytic and blood stage of malaria*. 88(December), 1131–1143. <https://doi.org/10.1189/jlb.0310137>
- McLeod, B., Miura, K., Scally, S. W., Bosch, A., Nguyen, N., Shin, H., Kim, D., Volkmuth, W., Rämisch, S., Chichester, J. A., Streatfield, S., Woods, C., Schief, W. R., Emerling, D., King, C. R., and Julien, J. P. (2019). Potent antibody lineage against malaria transmission elicited by human vaccination with Pfs25. *Nature Communications*, 10(1). <https://doi.org/10.1038/s41467-019-11980-6>
- McNamara, C. W., Lee, M. C. S., Lim, C. S., Lim, S. H., Roland, J., Nagle, A., Simon, O., Yeung, B. K. S., Chatterjee, A. K., McCormack, S. L., Manary, M. J., Zeeman, A. M., Dechering, K. J., Kumar, T. R. S., Henrich, P. P., Gagaring, K., Ibanez, M., Kato, N., Kuhen, K. L., ... Winzeler, E. A. (2013). Targeting Plasmodium PI(4)K to eliminate malaria. *Nature*, 504(7479), 248–253. <https://doi.org/10.1038/nature12782>
- Miller, J. L., Sack, B. K., Baldwin, M., Vaughan, A. M., and Kappe, S. H. I. (2014). Article Interferon-Mediated Innate Immune Responses against Malaria Parasite Liver Stages. *CellReports*, 7(2), 436–447.

<https://doi.org/10.1016/j.celrep.2014.03.018>

- Molina-cruz, A., Dejong, R. J., Ortega, C., Haile, A., Abban, E., Rodrigues, J., Jaramillo-gutierrez, G., and Barillas-mury, C. (2012). *Some strains of Plasmodium falciparum , a human malaria parasite , evade the complement-like system of Anopheles gambiae mosquitoes.* 1–6. <https://doi.org/10.1073/pnas.1121183109>
- Muhindo, H. M., Ilombe, G., Meya, R., Mitashi, P. M., Kutekemeni, A., Gasigwa, D., Lutumba, P., and Van Geertruyden, J. P. (2012). Accuracy of malaria rapid diagnosis test Optimal-IT in Kinshasa, the Democratic Republic of Congo. *Malaria Journal*, 11, 1–7. <https://doi.org/10.1186/1475-2875-11-224>
- Müller, I., and Kropf, P. (2012). Kinetoplastids: Leishmania. In *Immunity to Parasitic Infection*. <https://doi.org/10.1002/9781118393321.ch7>
- Münter, S., Sabass, B., Selhuber-Unkel, C., Kudryashev, M., Hegge, S., Engel, U., Spatz, J. P., Matuschewski, K., Schwarz, U. S., and Frischknecht, F. (2009). Plasmodium Sporozoite Motility Is Modulated by the Turnover of Discrete Adhesion Sites. *Cell Host and Microbe*, 6(6), 551–562. <https://doi.org/10.1016/j.chom.2009.11.007>
- Murphy, S. C., Shott, J. P., Parikh, S., Etter, P., Prescott, W. R., and Stewart, V. A. (2013). Review article: Malaria diagnostics in clinical trials. *American Journal of Tropical Medicine and Hygiene*, 89(5), 824–839. <https://doi.org/10.4269/ajtmh.12-0675>
- Neal Batra, David Betts, S. D. (2019). *The future of health care | Deloitte Insights*. <https://www2.deloitte.com/us/en/insights/industry/health-care/forces-of-change-health-care.html>
- Neqas, D. (2017). Determination of Percentage Parasitaemia of P. falciparum. *Uk Neqas Interational Quality Expertise*, 31(3), 2–11.
- Nixon, C. E. (2019). *Immune effector mechanisms in malaria : An update focusing on human immunity*. May. <https://doi.org/10.1111/pim.12628>
- Olivier, M., Ham, K. Van Den, Shio, M. T., Kassa, F. A., and Fougeray, S. (2014). *Malarial pigment hemozoin and the innate inflammatory response*. 5(February), 1–11. <https://doi.org/10.3389/fimmu.2014.00025>
- Olivier, M., Shio, M. T., and Kassa, F. A. (2010). *Innate inflammatory response to the malarial pigment hemozoin*. 12, 889–899. <https://doi.org/10.1016/j.micinf.2010.07.001>

- Otto, T. D., Böhme, U., Jackson, A. P., Hunt, M., Franke-Fayard, B., Hoeijmakers, W. A. M., Religa, A. A., Robertson, L., Sanders, M., Ogun, S. A., Cunningham, D., Erhart, A., Billker, O., Khan, S. M., Stunnenberg, H. G., Langhorne, J., Holder, A. A., Waters, A. P., Newbold, C. I., ... Janse, C. J. (2014). A comprehensive evaluation of rodent malaria parasite genomes and gene expression. *BMC Medicine*, 12(1), 1–18. <https://doi.org/10.1186/s12915-014-0086-0>
- Palma, J., Tokarz-Deptuła, B., Deptuła, J., and Deptuła, W. (2018). Natural antibodies – Facts known and unknown. *Central European Journal of Immunology*, 43(4), 466–475. <https://doi.org/10.5114/ceji.2018.81354>
- Perez-Mazliah, D., and Langhorne, J. (2014). CD4 T-cell subsets in malaria: Th1/Th2 revisited. *Frontiers in Immunology*, 5(DEC), 1–8. <https://doi.org/10.3389/fimmu.2014.00671>
- Phillips, M. A., Burrows, J. N., Manyando, C., Huijsduijnen, R. H. Van, Voorhis, W. C. Van, and Wells, T. N. C. (2017). *Malaria*. <https://doi.org/10.1056/NEJMp1613528>
- Phillips, M. A., Burrows, J. N., Manyando, C., Van Huijsduijnen, R. H., Van Voorhis, W. C., and Wells, T. N. C. (2017). Malaria. *Nature Reviews Disease Primers*, 3. <https://doi.org/10.1038/nrdp.2017.50>
- Phillips, M. A., Lotharius, J., Marsh, K., White, J., Dayan, A., White, K. L., Njoroge, J. W., El Mazouni, F., Lao, Y., Kokkonda, S., Tomchick, D. R., Deng, X., Laird, T., Bhatia, S. N., March, S., Ng, C. L., Fidock, D. A., Wittlin, S., Lafuente-Monasterio, M., ... Charman, S. A. (2015). A long-duration dihydroorotate dehydrogenase inhibitor (DSM265) for prevention and treatment of malaria. *Science Translational Medicine*, 7(296). <https://doi.org/10.1126/scitranslmed.aaa6645>
- Pichugin, A., Steers, N., Vega, P. D. La, and Zarling, S. (2016). *TAP-mediated processing of exoerythrocytic antigens is essential for protection induced with radiation-attenuated Plasmodium sporozoites*. 885–896. <https://doi.org/10.1002/eji.201545748>
- Pillai-Kastoori, L., Heaton, S., Shiflett, S. D., Roberts, A. C., Solache, A., and Schutz-Geschwender, A. R. (2020). Antibody validation for Western blot: By the user, for the user. *Journal of Biological Chemistry*, 295(4), 926–939. <https://doi.org/10.1074/jbc.RA119.010472>
- Priest, J. W., Kwon, J. P., Moss, D. M., Roberts, J. M., Arrowood, M. J., Dworkin, M. S., Juranek, D. D., and Lammie, P. J. (1999). Detection by enzyme immunoassay of serum immunoglobulin G antibodies that recognize specific *Cryptosporidium*

- paryum antigens. *Journal of Clinical Microbiology*, 37(5), 1385–1392. <https://doi.org/10.1128/jcm.37.5.1385-1392.1999>
- Pudjiastuti, P., Sumarsih, S., and Arwati, H. (2015). *In vitro study of parasitemia determination of alkaloids from S . tuberosa Lour by flow cytometry in comparation with optical microscopy In vitro study of parasitemia determination of alkaloids from S . tuberosa Lour by flow cytometry in comparation with . May 2017.*
- Rahola, N., Makanga, B., Yangari, P., Jiolle, D., Fontenille, D., Renaud, F., Ollomo, B., Ayala, D., Prugnolle, F., and Paupy, C. (2014). Description of *Anopheles gabonensis*, a new species potentially involved in rodent malaria transmission in Gabon, Central Africa. *Infection, Genetics and Evolution*, 28, 628–634. <https://doi.org/10.1016/j.meegid.2014.05.012>
- Rénia, L., and Goh, Y. S. (2016). *Malaria Parasites : The Great escape*. 7(November), 1–14. <https://doi.org/10.3389/fimmu.2016.00463>
- Reversing the Incidence of Malaria 2000–2015*. (2015).
- Rogerson, S. J., Desai, M., Mayor, A., Sicuri, E., Taylor, S. M., and Eijk, A. M. Van. (2018). Series Malaria in pregnancy 1 Burden , pathology , and costs of malaria in pregnancy : new developments for an old problem. *The Lancet Infectious Diseases*, 3099(18). [https://doi.org/10.1016/S1473-3099\(18\)30066-5](https://doi.org/10.1016/S1473-3099(18)30066-5)
- Rogerson, S. J., Desai, M., Mayor, A., Sicuri, E., Taylor, S. M., and van Eijk, A. M. (2018). Burden, pathology, and costs of malaria in pregnancy: new developments for an old problem. *The Lancet Infectious Diseases*, 18(4), e107–e118. [https://doi.org/10.1016/S1473-3099\(18\)30066-5](https://doi.org/10.1016/S1473-3099(18)30066-5)
- Sahu, S. S., Gunasekaran, K., and Jambulingam, P. (2015). Field performance of malaria rapid diagnostic test for the detection of *Plasmodium falciparum* infection in Odisha state, India. *Indian Journal of Medical Research*, 142(December), 52–58. <https://doi.org/10.4103/0971-5916.176620>
- Sanders, P. R., Gilson, P. R., Cantin, G. T., Greenbaum, D. C., Nebl, T., Carucci, D. J., Mcconville, M. J., Schofield, L., Hodder, A. N., Yates, J. R., and Crabb, B. S. (2005). *Distinct Protein Classes Including Novel Merozoite Surface Antigens in Raft-like Membranes of Plasmodium falciparum* * □. 280(48), 40169–40176. <https://doi.org/10.1074/jbc.M509631200>
- Sauerwein, R. W., and Bousema, T. (2015). Transmission blocking malaria vaccines: Assays and candidates in clinical development. *Vaccine*, 33(52), 7476–7482. <https://doi.org/10.1016/j.vaccine.2015.08.073>

- Saxena, A. K., Wu, Y., and Garboczi, D. N. (2007). Plasmodium P25 and P28 surface proteins: Potential transmission-blocking vaccines. *Eukaryotic Cell*, 6(8), 1260–1265. <https://doi.org/10.1128/EC.00060-07>
- Scaria, P. V., Rowe, C. G., Chen, B. B., Muratova, O. V., Fischer, E. R., Barnafo, E. K., Anderson, C. F., Zaidi, I. U., Lambert, L. E., Lucas, B. J., Nahas, D. D., Narum, D. L., and Duffy, P. E. (2019). Outer membrane protein complex as a carrier for malaria transmission blocking antigen Pfs230. *Npj Vaccines*, 4(1), 1–10. <https://doi.org/10.1038/s41541-019-0121-9>
- Schorderet-Weber, S., Noack, S., Selzer, P. M., and Kaminsky, R. (2017). Blocking transmission of vector-borne diseases. *International Journal for Parasitology: Drugs and Drug Resistance*, 7(1), 90–109. <https://doi.org/10.1016/j.ijpddr.2017.01.004>
- Schwenk, R., Lumsden, J. M., Rein, L. E., Juompan, L., Kester, K. E., Heppner, D. G., and Krzych, U. (2011). Immunization with the RTS , S / AS malaria vaccine induces IFN- γ + CD4 T cells that recognize only discrete regions of the circumsporozoite protein and these specificities are maintained following booster immunizations and challenge. *Vaccine*, 29(48), 8847–8854. <https://doi.org/10.1016/j.vaccine.2011.09.098>
- Sciences, M. (1997). *Signal transduction in macrophages by glycosylphosphatidylinositols of Plasmodium , Trypanosoma , and Leishmania : Activation of protein tyrosine kinases and protein kinase C by inositolglycan and diacylglycerol moieties*. 94(April), 4022–4027.
- Seder, R. A., Chang, L. J., Enama, M. E., Zephir, K. L., Sarwar, U. N., Gordon, I. J., Holman, L. S. A., James, E. R., Billingsley, P. F., Gunasekera, A., Richman, A., Chakravarty, S., Manoj, A., Velmurugan, S., Li, M. L., Ruben, A. J., Li, T., Eappen, A. G., Stafford, R. E., ... Hoffman, S. L. (2013). Protection against malaria by intravenous immunization with a nonreplicating sporozoite vaccine. *Science*, 341(6152), 1359–1365. <https://doi.org/10.1126/science.1241800>
- Seixas, E., Fonseca, L., and Langhorne, J. (2002). *The influence of $\gamma\delta$ T cells on the CD4 + T cell and antibody response during a primary Plasmodium chabaudi chabaudi infection in mice*. January, 131–140.
- Sellers, R. S., Clifford, C. B., Treuting, P. M., and Brayton, C. (2012). Immunological variation between inbred laboratory mouse strains: Points to consider in phenotyping genetically immunomodified mice. *Veterinary Pathology*, 49(1), 32–43. <https://doi.org/10.1177/0300985811429314>
- Silvie, O., Mota, M. M., Matuschewski, K., and Prudêncio, M. (2008). Interactions of

- the malaria parasite and its mammalian host. *Current Opinion in Microbiology*, 11(4), 352–359. <https://doi.org/10.1016/j.mib.2008.06.005>
- Sinden, R. E. (2010). A biologist's perspective on malaria vaccine development. *Human Vaccines*, 6(1). <https://doi.org/10.4161/hv.6.1.9604>
- Singh, A. P., Buscaglia, C. A., Wang, Q., Levay, A., Nussenzweig, D. R., Walker, J. R., Winzeler, E. A., Fujii, H., Fontoura, B. M. A., and Nussenzweig, V. (2007). Plasmodium Circumsporozoite Protein Promotes the Development of the Liver Stages of the Parasite. *Cell*, 131(3), 492–504. <https://doi.org/10.1016/j.cell.2007.09.013>
- Singh, S. K., Thrane, S., Janitzek, C. M., Nielsen, M. A., Theander, T. G., Theisen, M., Salanti, A., and Sander, A. F. (2017). Improving the malaria transmission-blocking activity of a Plasmodium falciparum 48/45 based vaccine antigen by SpyTag/SpyCatcher mediated virus-like display. *Vaccine*, 35(30), 3726–3732. <https://doi.org/10.1016/j.vaccine.2017.05.054>
- Spaulding, E., Fooksman, D., Moore, J. M., Saidi, A., Feintuch, M., Reizis, B., Chorro, L., and Daily, J. (2016). *STING-Licensed Macrophages Prime Type I IFN Production by Plasmacytoid Dendritic Cells in the Bone Marrow during Severe Plasmodium yoelii Malaria*. 1–29. <https://doi.org/10.1371/journal.ppat.1005975>
- Spillman, N. J., Beck, J. R., and Goldberg, D. E. (2015). Protein export into malaria parasite-infected erythrocytes: Mechanisms and functional consequences. *Annual Review of Biochemistry*, 84(January), 813–841. <https://doi.org/10.1146/annurev-biochem-060614-034157>
- Srinivasan, P., Beatty, W. L., Diouf, A., Herrera, R., Ambroggio, X., Moch, J. K., Tyler, J. S., Narum, D. L., Pierce, S. K., Boothroyd, J. C., Haynese, J. D., and Millera, L. H. (2011). Binding of Plasmodium merozoite proteins RON2 and AMA1 triggers commitment to invasion. *Proceedings of the National Academy of Sciences of the United States of America*, 108(32), 13275–13280. <https://doi.org/10.1073/pnas.1110303108>
- Steen, P. E. Van Den, Geurts, N., Deroost, K., Aelst, I. Van, and Verhenne, S. (n.d.). *Immunopathology and Dexamethasone Therapy in a New Model for Malaria-associated Acute Respiratory Distress Syndrome*. 15. <https://doi.org/10.1164/rccm.200905-0786OC>
- Stevenson, M. M., and Riley, E. M. (2004). *INNATE IMMUNITY TO MALARIA*. 4(March). <https://doi.org/10.1038/nri1311>
- Stewart, V. A., and Offeddu, V. (2017). *High Sporozoite Antibody Titers in*

- Conjunction with Microscopically Detectable Blood Infection Display Signatures of Protection from Clinical Malaria.* 8(May). <https://doi.org/10.3389/fimmu.2017.00488>
- Storm, J., Craig, A. G., Hansen, D. S., and Walter, T. (2014). *Pathogenesis of cerebral malaria — inflammation and cytoadherence* *MALARIA*. 4(July), 1–8. <https://doi.org/10.3389/fcimb.2014.00100>
- Strugnell, R., Zepp, F., Cunningham, A., and Tantawichien, T. (2011). Vaccine antigens. *Perspectives in Vaccinology*, 1(1), 61–88. <https://doi.org/10.1016/j.pervac.2011.05.003>
- Tachibana, M., Sato, C., Otsuki, H., Sattabongkot, J., Kaneko, O., Torii, M., and Tsuboi, T. (2012). Plasmodium vivax gametocyte protein Pvs230 is a transmission-blocking vaccine candidate. *Vaccine*, 30(10), 1807–1812. <https://doi.org/10.1016/j.vaccine.2012.01.003>
- Tan, J., Pieper, K., Piccoli, L., Abdi, A., Foglierini, M., Geiger, R., Tully, C. M., Jarrossay, D., Ndungu, F. M., Wambua, J., Bejon, P., Fregni, C. S., Fernandez-rodriguez, B., Barbieri, S., Bianchi, S., Marsh, K., Thathy, V., Corti, D., Sallusto, F., ... Lanzavecchia, A. (2015). antibodies against malaria variant antigens. *Nature*, 1–18. <https://doi.org/10.1038/nature16450>
- Tangpukdee, N., Duangdee, C., Wilairatana, P., and Krudsood, S. (2009). Malaria diagnosis: A brief review. *Korean Journal of Parasitology*, 47(2), 93–102. <https://doi.org/10.3347/kjp.2009.47.2.93>
- Tentokam, B. C. N., Amaratunga, C., Alani, N. A. H., MacDonald, N. J., Narum, D. L., Salinas, N. D., Kwan, J. L., Suon, S., Sreng, S., Pereira, D. B., Tolia, N. H., Fujiwara, R. T., Bueno, L. L., Duffy, P. E., and Coelho, C. H. (2019). Naturally Acquired Antibody Response to Malaria Transmission Blocking Vaccine Candidate Pvs230 Domain 1. *Frontiers in Immunology*, 10(October), 1–11. <https://doi.org/10.3389/fimmu.2019.02295>
- Theisen, M., Jore, M. M., and Sauerwein, R. (2017). Towards clinical development of a Pfs48/45-based transmission blocking malaria vaccine. *Expert Review of Vaccines*, 16(4), 329–336. <https://doi.org/10.1080/14760584.2017.1276833>
- Theisen, M., Roeffen, W., Singh, S. K., Andersen, G., Amoah, L., van de Vegte-Bolmer, M., Arens, T., Tiendrebeogo, R. W., Jones, S., Bousema, T., Adu, B., Dziegiel, M. H., Christiansen, M., and Sauerwein, R. (2014). A multi-stage malaria vaccine candidate targeting both transmission and asexual parasite life-cycle stages. *Vaccine*, 32(22), 2623–2630. <https://doi.org/10.1016/j.vaccine.2014.03.020>

- Thompson, E. A., Ols, S., Miura, K., Rausch, K., Narum, D. L., Spångberg, M., Juraska, M., Wille-Reece, U., Weiner, A., Howard, R. F., Long, C. A., Duffy, P. E., Johnston, L., O'Neil, C. P., and Loré, K. (2018). TLR-adjuvanted nanoparticle vaccines differentially influence the quality and longevity of responses to malaria antigen Pfs25. *JCI Insight*, 3(10). <https://doi.org/10.1172/jci.insight.120692>
- Vaughan, A. M., Aly, A. S. I., and Kappe, S. H. I. (2008). Malaria Parasite Pre-Erythrocytic Stage Infection: Gliding and Hiding. *Cell Host and Microbe*, 4(3), 209–218. <https://doi.org/10.1016/j.chom.2008.08.010>
- Vaughan, A. M., and Kappe, S. H. I. (2012). Malaria vaccine development: Persistent challenges. *Current Opinion in Immunology*, 24(3), 324–331. <https://doi.org/10.1016/j.coi.2012.03.009>
- Vénéreau, E., Ceriotti, C., Bianchi, M. E., Leggatt, G. R., and Bianchi, M. E. (2015). DAMPs from cell death to new life. 6(August), 1–11. <https://doi.org/10.3389/fimmu.2015.00422>
- Vijay, K. (2018). *International Immunopharmacology Toll-like receptors in immunity and in inflammatory diseases : Past , present , and future*. 59(December 2017), 391–412. <https://doi.org/10.1016/j.intimp.2018.03.002>
- Volohonsky, G., Steinert, S., and Levashina, E. A. (n.d.). *Focusing on complement in the antiparasitic defense of mosquitoes*. 10–12.
- Volz, J. C., Yap, A., Sisquella, X., Thompson, J. K., Lim, N. T. Y., Whitehead, L. W., Chen, L., Lampe, M., Tham, W. H., Wilson, D., Nebl, T., Marapana, D., Triglia, T., Wong, W., Rogers, K. L., and Cowman, A. F. (2016). Essential Role of the PfRh5/PfRipr/CyRPA Complex during Plasmodium falciparum Invasion of Erythrocytes. *Cell Host and Microbe*, 20(1), 60–71. <https://doi.org/10.1016/j.chom.2016.06.004>
- Wallach, M., Frölich, S., and Entzeroth, R. (2012). Comparison of protective immune responses to apicomplexan parasites. *Journal of Parasitology Research*, 2012. <https://doi.org/10.1155/2012/852591>
- Wang, C. W., and Hviid, L. (2015). Rifins, rosetting, and red blood cells. *Trends in Parasitology*, 1–2. <https://doi.org/10.1016/j.pt.2015.04.009>
- Wang, J., Zheng, W., Liu, F., Wang, Y., He, Y., Zheng, L., Fan, Q., Luo, E., Cao, Y., and Cui, L. (2017). Characterization of Pb51 in Plasmodium berghei as a malaria vaccine candidate targeting both asexual erythrocytic proliferation and transmission. *Malaria Journal*, 16(1), 1–10. <https://doi.org/10.1186/s12936-017-2107-2>

- Waters, A. P. (2016). Epigenetic Roulette in Blood Stream Plasmodium: Gambling on Sex. *PLoS Pathogens*, 12(2), 1–7. <https://doi.org/10.1371/journal.ppat.1005353>
- Weiss, G. E., Gilson, P. R., Taechalartpaisarn, T., Tham, W. H., de Jong, N. W. M., Harvey, K. L., Fowkes, F. J. I., Barlow, P. N., Rayner, J. C., Wright, G. J., Cowman, A. F., and Crabb, B. S. (2015). Revealing the Sequence and Resulting Cellular Morphology of Receptor-Ligand Interactions during Plasmodium falciparum Invasion of Erythrocytes. *PLoS Pathogens*, 11(2), 1–25. <https://doi.org/10.1371/journal.ppat.1004670>
- Wells, T. N. C., and Gutteridge, W. E. (2011). *Neglected Diseases and Drug Discovery*. <https://doi.org/10.1039/9781849733496>
- White, N. J., Pukrittayakamee, S., Phyo, A. P., Rueangweerayut, R., Nosten, F., Jittamala, P., Jeeyapant, A., Jain, J. P., Lefèvre, G., Li, R., Magnusson, B., Diagana, T. T., and Leong, F. J. (2014). Spiroindolone KAE609 for falciparum and vivax malaria. *New England Journal of Medicine*, 371(5), 403–410. <https://doi.org/10.1056/NEJMoa1315860>
- WHO. (2020). World Malaria Report 2020. World Health Organization. In *World Health*.
- WHO Report. (2017). World Malaria Report 2017. In *World Health Organization*. <https://doi.org/10.1071/EC12504>
- Wilson, K. L., Flanagan, K. L., Prakash, M. D., and Plebanski, M. (2019). Malaria vaccines in the eradication era: current status and future perspectives. *Expert Review of Vaccines*, 18(2), 133–151. <https://doi.org/10.1080/14760584.2019.1561289>
- Wolf, A., Sherratt, S., Riley, E. M., Waggoner, S. N., and Riley, E. M. (2017). *NK Cells : Uncertain Allies against Malaria*. 8(March), 1–14. <https://doi.org/10.3389/fimmu.2017.00212>
- Wu, J., and Chen, Z. J. (n.d.). *Innate Immune Sensing and Signaling of Cytosolic Nucleic Acids*. <https://doi.org/10.1146/annurev-immunol-032713-120156>
- Wu, X., Gowda, N. M., and Gowda, X. D. C. (2015). Phagosomal acidification prevents macrophage inflammatory cytokine production to malaria, and dendritic cells are the major source at the early stages of infection: Implication for malaria protective immunity development. *Journal of Biological Chemistry*, 290(38), 23135–23147. <https://doi.org/10.1074/jbc.M115.671065>
- Yamauchi Lucy M., L. M., Coppi, A., Snounou, G., and Sinnis, P. (2007). Plasmodium