

References

- Abbasi, I., Kirstein, O. D., Hailu, A., & Warburg, A. (2016). Optimization of loop-mediated isothermal amplification (LAMP) assays for the detection of Leishmania DNA in human blood samples. *Acta Tropica*, 162, 20–26. <https://doi.org/10.1016/j.actatropica.2016.06.009>
- Adamu, A., Jada, M. S., Haruna, H. M. S., Yakubu, B. O., Ibrahim, M. A., Balogun, E. O., Sakura, T., Inaoka, D. K., Kita, K., Hirayama, K., Culleton, R., & Shuaibu, M. N. (2020). Plasmodium falciparum multidrug resistance gene-1 polymorphisms in Northern Nigeria: implications for the continued use of artemether-lumefantrine in the region. *Malaria Journal*, 19(1). <https://doi.org/10.1186/s12936-020-03506-z>
- Al-Mekhlafi, H. M., Madkhali, A. M., Abdulhaq, A. A., Atroosh, W. M., Ghzwani, A. H., Zain, K. A., Ghailan, K. Y., Hamali, H. A., Mobarki, A. A., Alharazi, T. H., Eisa, Z. M., & Lau, Y.-L. (2022). Polymorphism analysis of pfmdr1 gene in Plasmodium falciparum isolates 11 years post-adoption of artemisinin-based combination therapy in Saudi Arabia. *Scientific Reports*, 12(1). <https://doi.org/10.1038/s41598-021-04450-x>
- Aninagyei, E., Boakye, A. A., Tettey, C. O., Ntiri, K. A., Ofori, S. O., Tetteh, C. D., Aphour, T. T., & Rufai, T. (2022). Utilization of 18s ribosomal RNA LAMP for detecting Plasmodium falciparum in microscopy and rapid diagnostic test negative patients. *PLOS ONE*, 17(10), e0275052. <https://doi.org/10.1371/journal.pone.0275052>
- Antinori, S., Ridolfo, A. L., Grande, R., Galimberti, L., Casalini, G., Giacomelli, A., & Milazzo, L. (2021). Loop-mediated isothermal amplification (LAMP) assay for the diagnosis of imported malaria: a narrative review. *Infezioni in Medicina*, 29(3), 355–365. <https://doi.org/10.53854/liim-2903-6>

- Barber, B. E., William, T., Grigg, M. J., Yeo, T. W., & Anstey, N. M. (2013). Limitations of microscopy to differentiate Plasmodium species in a region co-endemic for Plasmodium falciparum, Plasmodium vivax and Plasmodium knowlesi. *Malaria Journal*, 12(1). <https://doi.org/10.1186/1475-2875-12-8>
- Becherer, L., Borst, N., Bakheit, M., Frischmann, S., Zengerle, R., & Stetten, F. von. (2020). Loop-mediated isothermal amplification (LAMP) – review and classification of methods for sequence-specific detection. *Analytical Methods*, 12(6), 717–746. <https://doi.org/10.1039/C9AY02246E>
- Borah Slater, K., Ahmad, M., Poirier, A., Stott, A., Siedler, B. S., Brownsword, M., Mehat, J., Urbaniec, J., Locker, N., Zhao, Y., La Ragione, R., Silva, S. R. P., & McFadden, J. (2023). Development of a loop-mediated isothermal amplification (LAMP)-based electrochemical test for rapid detection of SARS-CoV-2. *IScience*, 26(9), 107570. <https://doi.org/10.1016/j.isci.2023.107570>
- Britton, S., Cheng, Q., Grigg, M. J., Poole, C. B., Pasay, C., William, T., Fornace, K., Anstey, N. M., Sutherland, C. J., Drakeley, C., & McCarthy, J. S. (2016). Sensitive Detection of Plasmodium vivax Using a High-Throughput, Colourimetric Loop Mediated Isothermal Amplification (HtLAMP) Platform: A Potential Novel Tool for Malaria Elimination. *PLOS Neglected Tropical Diseases*, 10(2), e0004443. <https://doi.org/10.1371/journal.pntd.0004443>
- Castro, T. (2021). Saliva and urine analysis of Zika virus using loop-mediated isothermal amplification (LAMP). *Elsevier EBooks*, 255–261. <https://doi.org/10.1016/b978-0-12-820267-8.00024-8>
- CDC. (2020, October 29). CDC - DPDx - Diagnostic Procedures. [Www.cdc.gov. https://www.cdc.gov/dpdx/diagnosticprocedures/index.html](https://www.cdc.gov/dpdx/diagnosticprocedures/index.html)

- Cummings, R. D., Hokke, C. H., & Haslam, S. M. (2022). *FIGURE 43.1. [Life cycle of Plasmodium falciparum,...]*. [Www.ncbi.nlm.nih.gov. https://www.ncbi.nlm.nih.gov/books/NBK579956/figure/CSHLP5087CH43F1/](https://www.ncbi.nlm.nih.gov/books/NBK579956/figure/CSHLP5087CH43F1/)
- Dhatterwal, P., Mehrotra, S., & Mehrotra, R. (2017). Optimization of PCR conditions for amplifying an AT-rich amino acid transporter promoter sequence with high number of tandem repeats from *Arabidopsis thaliana*. *BMC Research Notes*, 10(1). <https://doi.org/10.1186/s13104-017-2982-1>
- Diptyanusa, A., & Basri, H. H. (2023, March 31). *Time to look back to plan Indonesia's malaria-free future*. [Www.who.int. https://www.who.int/indonesia/news/detail/31-03-2023-time-to-look-back-to-plan-indonesia-s-malaria-free-future](https://www.who.int/indonesia/news/detail/31-03-2023-time-to-look-back-to-plan-indonesia-s-malaria-free-future)
- Dukes, J. P., King, D. P., & Alexandersen, S. (2006). Novel reverse transcription loop-mediated isothermal amplification for rapid detection of foot-and-mouth disease virus. *Archives of Virology*, 151(6), 1093–1106. <https://doi.org/10.1007/s00705-005-0708-5>
- Fola, A. A., Feleke, S. M., Mohammed, H., Brhane, B. G., Hennelly, C. M., Assefa, A., Crudal, R. M., Reichert, E., Juliano, J. J., Cunningham, J., Mamo, H., Solomon, H., Tasew, G., Petros, B., Parr, J. B., & Bailey, J. A. (2023). *Plasmodium falciparum* resistant to artemisinin and diagnostics have emerged in Ethiopia. *Nature Microbiology*, 1–9. <https://doi.org/10.1038/s41564-023-01461-4>
- Foo, P. C., A. B. Nurul Najian, Muhamad, N. A., Ahamad, M., Mohamed, M., Yean, C. Y., & Lim, B. H. (2020). Loop-mediated isothermal amplification (LAMP) reaction as viable PCR substitute for diagnostic applications: a comparative analysis study of LAMP, conventional PCR, nested PCR (nPCR) and real-time PCR (qPCR) based on *Entamoeba*

- histolytica DNA derived from faecal sample. *BMC Biotechnology*, 20(1).
<https://doi.org/10.1186/s12896-020-00629-8>
- Gil, J. P., & Krishna, S. (2017). pfmdr1 (Plasmodium falciparum multidrug drug resistance gene 1): a pivotal factor in malaria resistance to artemisinin combination therapies. *Expert Review of Anti-Infective Therapy*, 15(6), 527–543.
<https://doi.org/10.1080/14787210.2017.1313703>
- Grau, G. E. R., & Craig, A. G. (2012). Cerebral malaria pathogenesis: revisiting parasite and host contributions. *Future Microbiology*, 7(2), 291–302.
<https://doi.org/10.2217/fmb.11.155>
- Gruenberg, M., Moniz, C. A., Hofmann, N. E., Koepfli, C., Robinson, L. J., Nate, E., Monteiro, W. M., de Melo, G. C., Kuehn, A., Siqueira, A. M., Nguitragool, W., Bassat, Q., Lacerda, M., Sattabongkot, J., Mueller, I., & Felger, I. (2020). Utility of ultra-sensitive qPCR to detect Plasmodium falciparum and Plasmodium vivax infections under different transmission intensities. *Malaria Journal*, 19(1).
<https://doi.org/10.1186/s12936-020-03374-7>
- Hyde, J. E. (2007). Drug-resistant malaria – an insight. *FEBS Journal*, 274(18), 4688–4698.
<https://doi.org/10.1111/j.1742-4658.2007.05999.x>
- Idowu, A. O., Oyibo, W. A., Bhattacharyya, S., Khubbar, M., Mendie, U. E., Bumah, V. V., Black, C., Igietseme, J., & Azenabor, A. A. (2019). Rare mutations in Pfmdr1 gene of Plasmodium falciparum detected in clinical isolates from patients treated with anti-malarial drug in Nigeria. *Malaria Journal*, 18(1).
<https://doi.org/10.1186/s12936-019-2947-z>

- Kamya, M. R., Bakyaita, N., Talisuna, A., Were, W. M., & Staedke, S. G. (2002). *Increasing antimalarial drug resistance in Uganda and revision of the national drug policy*. 7(12), 1031–1041. <https://doi.org/10.1046/j.1365-3156.2002.00974.x>
- Kayiba, N. K., Nitahara, Y., Tshibangu-Kabamba, E., Mbuyi, D. K., Kabongo-Tshibaka, A., Kalala, N. T., Tshiebue, B. M., Candray-Medina, K.-S., Kaku, N., Nakagama, Y., Speybroeck, N., Mumba, D. N., Disashi, G. T., Kaneko, A., & Kido, Y. (2024). Malaria infection among adults residing in a highly endemic region from the Democratic Republic of the Congo. *Malaria Journal*, 23(1). <https://doi.org/10.1186/s12936-024-04881-7>
- Kiszewski, A. E. (2010). Blocking Plasmodium falciparum Malaria Transmission with Drugs: The Gametocytocidal and Sporontocidal Properties of Current and Prospective Antimalarials. *Pharmaceuticals*, 4(1), 44–68. <https://doi.org/10.3390/ph4010044>
- Lau, Y.-L., Lai, M.-Y., Fong, M.-Y., Jelip, J., & Mahmud, R. (2016). Loop-Mediated Isothermal Amplification Assay for Identification of Five Human Plasmodium Species in Malaysia. *The American Journal of Tropical Medicine and Hygiene*, 94(2), 336–339. <https://doi.org/10.4269/ajtmh.15-0569>
- Lekostaj, J. K., Amoah, L. E., & Roepe, P. D. (2008). A single S1034C mutation confers altered drug sensitivity to PfMDR1 ATPase activity that is characteristic of the 7G8 isoform. *Molecular and Biochemical Parasitology*, 157(1), 107–111. <https://doi.org/10.1016/j.molbiopara.2007.09.008>
- Li, X., Wang, J., Geng, J., Xiao, L., & Wang, H. (2022). Emerging Landscape of SARS-CoV-2 Variants and Detection Technologies. *Molecular Diagnosis & Therapy*. <https://doi.org/10.1007/s40291-022-00631-0>
- Lim, C., Pereira, L., Shardul, P., Mascarenhas, A., Maki, J., Rixon, J., Shaw-Saliba, K., White, J., Silveira, M., Gomes, E., Chery, L., Rathod, P. K., & Duraisingh, M. T. (2016). Improved

- light microscopy counting method for accurately counting Plasmodium parasitemia and reticulocytomia. *American Journal of Hematology*, 91(8), 852–855. <https://doi.org/10.1002/ajh.24383>
- Matsuda, K. (2017, January 1). *Chapter Two - PCR-Based Detection Methods for Single-Nucleotide Polymorphism or Mutation: Real-Time PCR and Its Substantial Contribution Toward Technological Refinement* (G. S. Makowski, Ed.). ScienceDirect; Elsevier. <https://www.sciencedirect.com/science/article/abs/pii/S0065242316300981>
- Milner, D. A. (2017). Malaria Pathogenesis. *Cold Spring Harbor Perspectives in Medicine*, 8(1), a025569. <https://doi.org/10.1101/cshperspect.a025569>
- Mita, T., Tanabe, K., & Kita, K. (2009). Spread and evolution of Plasmodium falciparum drug resistance. *Parasitology International*, 58(3), 201–209. <https://doi.org/10.1016/j.parint.2009.04.004>
- Notomi, T., Okayama, H., Masubuchi, H., Yonekawa, T., Watanabe, K., Amino, N., & Hase, T. (2000). Loop-mediated isothermal amplification of DNA. *Nucleic Acids Research*, 28(12), e63. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC102748/>
- Nsanjabana, C. (2019). Resistance to Artemisinin Combination Therapies (ACTs): Do Not Forget the Partner Drug! *Tropical Medicine and Infectious Disease*, 4(1), 26. <https://doi.org/10.3390/tropicalmed4010026>
- Nsoby, S. L., Kiggundu, M., Nanyunja, S., Joloba, M., Greenhouse, B., & Rosenthal, P. J. (2010). In Vitro Sensitivities of Plasmodium falciparum to Different Antimalarial Drugs in Uganda. *Antimicrobial Agents and Chemotherapy*, 54(3), 1200–1206. <https://doi.org/10.1128/aac.01412-09>
- Omondi, C. J., Odongo, D., Otambo, W. O., Ochwedo, K. O., Otieno, A., Lee, M.-C., Kazura, J. W., Githeko, A. K., & Yan, G. (2023). Malaria diagnosis in rural healthcare facilities and

- treatment-seeking behavior in malaria endemic settings in western Kenya. *PLOS Global Public Health*, 3(7), e0001532. <https://doi.org/10.1371/journal.pgph.0001532>
- Orish, V. N., De-Gaulle, V. F., & Sanyaolu, A. O. (2018). Interpreting rapid diagnostic test (RDT) for *Plasmodium falciparum*. *BMC Research Notes*, 11. <https://doi.org/10.1186/s13104-018-3967-4>
- Park, J., Throop, A. L., & LaBaer, J. (2015). Site-Specific Recombinational Cloning Using Gateway and In-Fusion Cloning Schemes. *Current Protocols in Molecular Biology*, 110(1). <https://doi.org/10.1002/0471142727.mb0320s110>
- Poon, L. L., Wong, B. W., Ma, E. H., Chan, K. H., Chow, L. M., Abeyewickreme, W., Tangpukdee, N., Yuen, K. Y., Guan, Y., Looareesuwan, S., & Peiris, J. M. (2006). Sensitive and Inexpensive Molecular Test for *Falciparum* Malaria: Detecting *Plasmodium falciparum* DNA Directly from Heat-Treated Blood by Loop-Mediated Isothermal Amplification,. *Clinical Chemistry*, 52(2), 303–306. <https://doi.org/10.1373/clinchem.2005.057901>
- Pulcini, S., Staines, H. M., Lee, A. H., Shafik, S. H., Bouyer, G., Moore, C. M., Daley, D. A., Hoke, M. J., Altenhofen, L. M., Painter, H. J., Mu, J., Ferguson, D. J. P., Llinás, M., Martin, R. E., Fidock, D. A., Cooper, R. A., & Krishna, S. (2015). Mutations in the *Plasmodium falciparum* chloroquine resistance transporter, PfCRT, enlarge the parasite's food vacuole and alter drug sensitivities. *Scientific Reports*, 5(1). <https://doi.org/10.1038/srep14552>
- Puyskens, A., Krause, E., Michel, J., C Micha Nübling, Heinrich Scheiblaue, Bourquain, D., Grossege, M., Valusenko, R., Corman, V. M., Drosten, C., Katrin Zwirgmaier, Wölfel, R., Lange, C., Kramer, J., Friesen, J., Ignatius, R., Müller, M., Schmidt-Chanasit, J., Emmerich, P., & Lars Schaade. (2021). Establishment of a specimen panel for the decentralised technical evaluation of the sensitivity of 31 rapid diagnostic tests for

- SARS-CoV-2 antigen, Germany, September 2020 to April 2021. *Eurosurveillance*, 26(44). <https://doi.org/10.2807/1560-7917.es.2021.26.44.2100442>
- Rahmasari, F. V., Asih, P. B. S., Dewayanti, F. K., Rotejanaprasert, C., Charunwatthana, P., Imwong, M., & Syafruddin, D. (2022). Drug resistance of *Plasmodium falciparum* and *Plasmodium vivax* isolates in Indonesia. *Malaria Journal*, 21(1), 354. <https://doi.org/10.1186/s12936-022-04385-2>
- Schindler, T., Deal, A. C., Fink, M., Guirou, E., Moser, K. A., Mwakasungula, S. M., Mihayo, M. G., Jongo, S. A., Chaki, P. P., Abdulla, S., Valverde, P. C. M., Torres, K., Bijeri, J. R., Silva, J. C., Hoffman, S. L., Gamboa, D., Tanner, M., & Daubenberger, C. (2019). A multiplex qPCR approach for detection of *pfhrp2* and *pfhrp3* gene deletions in multiple strain infections of *Plasmodium falciparum*. *Scientific Reports*, 9(1). <https://doi.org/10.1038/s41598-019-49389-2>
- Smith, J. D., Rowe, J. A., Higgins, M. K., & Lavstsen, T. (2013). Malaria's deadly grip: cytoadhesion of *Plasmodium falciparum*-infected erythrocytes. *Cellular Microbiology*, 15(12), 1976–1983. <https://doi.org/10.1111/cmi.12183>
- Soulard, V., Bosson-Vanga, H., Lorthiois, A., Roucher, C., Franetich, J. - F., Zanghi, G., Bordessoulles, M., Tefit, M., Thellier, M., Morosan, S., Le Naour, G., Capron, F., Suemizu, H., Snounou, G., Moreno-Sabater, A., & Mazier, D. (2015). *Plasmodium falciparum* full life cycle and *Plasmodium ovale* liver stages in humanized mice. *Nature Communications*, 6(1). <https://doi.org/10.1038/ncomms8690>
- Śpibida, M., Krawczyk, B., Olszewski, M., & Kur, J. (2016). Modified DNA polymerases for PCR troubleshooting. *Journal of Applied Genetics*, 58(1), 133–142. <https://doi.org/10.1007/s13353-016-0371-4>

- Sugiarto, S. R., Baird, J. K., Singh, B., Elyazar, I., & Davis, T. M. E. (2022). The history and current epidemiology of malaria in Kalimantan, Indonesia. *Malaria Journal*, 21(1). <https://doi.org/10.1186/s12936-022-04366-5>
- Veiga, M. I., Dhingra, S. K., Henrich, P. P., Straimer, J., Gnädig, N., Uhlemann, A.-C., Martin, R. E., Lehane, A. M., & Fidock, D. A. (2016). Globally prevalent PfMDR1 mutations modulate Plasmodium falciparum susceptibility to artemisinin-based combination therapies. *Nature Communications*, 7(1). <https://doi.org/10.1038/ncomms11553>
- Videvall, E. (2018). Plasmodium parasites of birds have the most AT-rich genes of eukaryotes. *Microbial Genomics*, 4(2). <https://doi.org/10.1099/mgen.0.000150>
- Wang, D.-G., Brewster, J. D., Paul, M., & Tomasula, P. M. (2015). Two Methods for Increased Specificity and Sensitivity in Loop-Mediated Isothermal Amplification. *Molecules*, 20(4), 6048–6059. <https://doi.org/10.3390/molecules20046048>
- Weiss, D. J., Lucas, T. C. D., Nguyen, M., Nandi, A. K., Bisanzio, D., Battle, K. E., Cameron, E., Twohig, K. A., Pfeffer, D. A., Rozier, J. A., Gibson, H. S., Rao, P. C., Casey, D., Bertozzi-Villa, A., Collins, E. L., Dalrymple, U., Gray, N., Harris, J. R., Howes, R. E., & Kang, S. Y. (2019). Mapping the global prevalence, incidence, and mortality of Plasmodium falciparum, 2000–17: a spatial and temporal modelling study. *The Lancet*, 394(10195), 322–331. [https://doi.org/10.1016/s0140-6736\(19\)31097-9](https://doi.org/10.1016/s0140-6736(19)31097-9)
- White, N. J. (2004). Antimalarial Drug Resistance. *Journal of Clinical Investigation*, 113(8), 1084–1092. <https://doi.org/10.1172/jci21682>
- WHO. (2022). *World malaria report 2022*. [Www.who.int. https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2022](https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2022)

- Wicht, K. J., Mok, S., & Fidock, D. A. (2020). Molecular Mechanisms of Drug Resistance in *Plasmodium falciparum* Malaria. *Annual Review of Microbiology*, 74(1), 431–454.
<https://doi.org/10.1146/annurev-micro-020518-115546>
- Winzeler, E. A., & Manary, M. J. (2014). Drug resistance genomics of the antimalarial drug artemisinin. *Genome Biology*, 15(11). <https://doi.org/10.1186/s13059-014-0544-6>
- Zanoli, L., & Spoto, G. (2012). Isothermal Amplification Methods for the Detection of Nucleic Acids in Microfluidic Devices. *Biosensors*, 3(1), 18–43.
<https://doi.org/10.3390/bios3010018>
- Zekar, L., & Sharman, T. (2022, August 8). *Malaria (Plasmodium Falciparum)*. PubMed; StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK555962/>
- Zelman, B. W., Baral, R., Zarlinda, I., Coutrier, F. N., Sanders, K. C., Cotter, C., Herdiana, H., Greenhouse, B., Shretta, R., Gosling, R. D., & Hsiang, M. S. (2018). Costs and cost-effectiveness of malaria reactive case detection using loop-mediated isothermal amplification compared to microscopy in the low transmission setting of Aceh Province, Indonesia. *Malaria Journal*, 17(1).
<https://doi.org/10.1186/s12936-018-2361-y>
- Zhang, J., Chen, X., Pan, M., Qin, Y., Zhao, H., Yang, Q., Li, X., Zeng, W., Xiang, Z., Wu, Y., Duan, M., Li, X., Wang, X., Mazier, D., Zhang, Y., Zhu, W., Sun, K., Wu, Y., Cui, L., & Huang, Y. (2022). Application of a low-cost, specific, and sensitive loop-mediated isothermal amplification (LAMP) assay to detect *Plasmodium falciparum* imported from Africa. *Molecular and Biochemical Parasitology*, 252, 111529–111529.
<https://doi.org/10.1016/j.molbiopara.2022.111529>

Zulkifli, S. N., Rahim, H. A., & Lau, W.-J. (2018). Detection of contaminants in water supply: A review on state-of-the-art monitoring technologies and their applications. *Sensors and Actuators. B, Chemical*, 255, 2657–2689.
<https://doi.org/10.1016/j.snb.2017.09.078>