

ASSOCIATE PROFESSOR DR. MAIZAN MOHAMED



A. GENERAL INFORMATION

Date of Birth and I. C. No./Passport: 22/06/1964

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Academic qualification:

PhD (Molecular Virology) St. Andrews University (UK)

MSC (Molecular Biology), UPM

BSc (Microbiology), UKM

Professional Memberships:

Member of International Society of Infectious Disease

Member of Asian Federation of Biotechnology

Member of National antimicrobial Resistance Committee

Member of MyOHUN

Research Grant

Active

1. Investigation of the presence, evaluation and zoonotic potential of wildlife coronaviruses in Malaysia. (FRGS 2020-2022)
2. Bacteriophage with Potential for inactivation of multi drug resistant *Vibrio* spp. isolated from Asian Seabass (*Lates calcarifer*) in East Coast, Malaysia (Co-researcher FRGS 2019-2021)
3. Anticancer effect of *Parkia speciosa* (Petai) seeds extract against mammary cancer on C57BL/6 mice (Co-researcher FRGS-RACER 2020-2021)
4. Acute Phase Proteins and Pro-Inflammatory Cytokines As Potential Disease Biomarkers, Prognostic and Therapeutic Indicators of *Manheimia* Pneumonia in Goats (Co-researcher FRGS-RACER 2020-2021);
5. Molecular Detection and Characterization of Japanese Encephalitis Virus In Wild Pigs (*Sus Scrofa*) and Mosquito Vectors in Kelantan. (Co-researcher FRGS-RACER 2020-2021)
6. Formulation and evaluation of mangrove crab soup pellet for an anti blood cancer agent (UMK prototype - Principal Investigator)
7. Modification of in-house reverse transcription- loop amplification method (RT-LAMP) for simple, rapid and onsite testing of SARS-CoV 2 (UMK Covid-19 special grant -Principal Investigator) virus.

Completed

1. *In-vitro* study of anticancer effect of Mangrove crab soup extract. (Principal Investigator-FRGS)
2. Prevalance and Associated Risk Factors of Haemoparasitism In Ruminats In Kelantan. (Co-researcher SGJP, UMK)
3. Interrogating Novel Compounds for Improved Anti-dengue Therapies via Inhibition of Host's Glycolytic Pathway. (Co-researcher FRGS)
4. Determination of the sex juvenile *Oxyeleoritis marmorata* (ketutu) by using DNA marker for breeding purpose (Co-researcher FRGS)
5. Establishment of Thermostabilised Loop amplification method (LAMP) for the detection of Japanese Encephalitis virus at Point-Of-Care (ON-GOING) (Principle Investigator- SGJP-MyRA Keserakanan USM)

6. Characterization of integrons and antibiotic resistance determinants in *Aeromonas* spp. isolated from freshwater fish culture in East Coast Malaysia. (Co-researcher FRGS)
7. Prevalence study of zoonotic pathogens in working pig-tailed macaque (*Macacanemestrina*) at Bachok, Kelantan. Co-SGJP)
8. Improvement of Loop amplification Methods for the detection of pathogens In point -of- care (POC). (Principal Investigator-MyRA)
9. Development Of Point-Of-Care (POC) Diagnostic Test For Personalised Medicine For Drug Use Disorder, HIV/AIDS And Related Infections. (CO-RU Cluster)
10. Development of Integrated Multisensor Isothermal Amplification with nucleic acid Lateral Flow system for Point-of-Care Biosensor Assay. (Co-researcher PRGS)
11. Establishment of reverse transcription-loop amplification (LAMP) method for genotyping and viral load determination assay of Human immunodeficiency virus (HIV). (Principal Investigator-RU Short term-USM)
12. Establishment of loop amplification (LAMP) method for the detection of *Salmonella* Typhi. (Principal Investigator-HiCoE USM)
13. Establishment of reverse transcription-loop amplification (LAMP) method for genotyping and viral load determination assay of Human immunodeficiency virus (HIV). (Principal investigator-RU Cluster)
14. Genetic variation and molecular epidemiology of *Salmonella* Typhi isolated from Kelantan. (Principal Investigator-RU USM)
15. Establishment of loop amplification (LAMP) method for the detection of *Salmonella* Paratyphi A. (Principal investigator-RU Cluster)
16. Interdisciplinary focused efforts towards H1N1 drug discovery: the study of local (Malaysian strain) H1N1 ie characterization H1N1 biology toward understanding viral infections, in parallel with design, synthesis and development of hit compounds against H1N1-flu related infection. (Co- Investigator-E-Science)

17. Identification of the viral agents from the sheep pneumonic lungs from 4 government farms in Malaysia (1992)-IRPA/Principal researcher
18. Epidemiology, pathogenicity and characterisation of the Malaysian strain of duck viral enteritis (DVE)-IRPA/Project leader
19. Molecular characterisation of Malaysian isolates of infectious bronchitis virus (IBV) – Collaboration with Prof Datin Dr. Khatijah Yusoff (UPM) –MSc project
20. Development of PCR and nested PCR for the detection of specific avian viruses (IBV, IBDV, AIV, NDV, DVE, CAV, SHS, DVH, Derzy's, AE and mareks disease), IRPA Project No: 01-03-02-6329, Year: 2000
21. Sequence analysis of S segments of orthobunyavirus- Collaboration with Prof. Richard Elliott- PhD Project with Glasgow/ St. Andrews University, UK

Publications

1. Norhanizam Nordin, Nani Izreen Mohd Sani, Arifah Abdul Kadir, Rumaizi Shaari, **Maizan Mohamed**, Mohd Farhan Hanif Reduan, Muhammad Luqman Nordin. (2021). Infectious bronchitis associated with *Escherichia coli* infection in commercial broiler chickens: a case report. *J of Advanced Veterinary and Animal Research* 8(1): 101–104
2. Iliia Eleena Mohd Baharin, Habsah Hasan, Nik Zuraina Nik Mohd Noor and **Maizan Mohamed** (2021). Molecular detection of selected zoonotic respiratory pathogens and the presence of virulence and antibiotic resistance genes via PCR among Kelantan Hajj pilgrims. *Malaysian Journal of Microbiology*, 17(3), 254-256
3. Shamsaldeen Ibrahim, Loh Wei Hoong, Yip Lai Siong, Zaharuddin Mustapha, C. W. Salma C. W. Zalati, Erkihun Aklilu, **Maizan Mohamed** and Nor Fadhilah Kamaruzzaman (2021). Prevalence of Antimicrobial Resistance (AMR) Salmonella spp. and Escherichia coli Isolated from Broilers in the East Coast of Peninsular Malaysia. *Antibiotics*, 10, 579.
4. Douglas Law, Voon Chun Ping, Tan Chin Yee, Herryawan Ryadi Eziwar Dyari,, **Maizan Mohamed**, Shazrul Fazry and Nik Marzuki Sidik. (2021). Use of Amplified Fragment Length Polymorphism and Sequence Characterized Amplified Region Marker for Identifying the Sex of the *Oxyeleotris marmorata*. *Pertanika J. Trop. Agric. Sci.* 44 (1): 107 - 115
5. Suk P. Tang, Wan N. Wan Yusuf, Che B. Abd Aziz, Mahiran Mustafa, **Maizan Mohamed**. (2020). Effects of Six-Month Tualang Honey Supplementation on Physiological and Biochemical Profiles in Asymptomatic, Treatment-naïve HIV-infected Patients. *Trop J Nat Prod Res* 4(12):1116-1123

6. F Fauzi, RH Hamdan, **M Mohamed**, LP Tan. (2020). Detection of Integron and Antibiotic Resistance Genes of *Aeromonas* spp. Isolated from Freshwater Fish in Pahang, Malaysia. *Charting the Sustainable Future of ASEAN in Science and Technology*, 473-486.
7. PC Foo, ABN Najian, NA Muhamad, M Ahamad, **M Mohamed**, CY Yean.(2020). Loop-mediated isothermal amplification (LAMP) reaction as viable PCR substitute for diagnostic applications: a comparative analysis study of LAMP, conventional PCR, nested PCR and real-time PCR (qPCR) based on *Entamoeba histolytica* DNA derived from faecal samples. *BMC biotechnology* 20 (1); 1-15
8. Muhammad Luqman Nordin, Abdul Aziz Othman, Arifah Abdul Kadir, Rumaizi Shaari, Abdinasir Yusuf Osman and **Maizan Mohamed**. (2019). Antibacterial and cytotoxic activities of the *Syzygium polyanthum* leaf extract from Malaysia, *Veterinary world* 12 (2); 236-242
9. Aziana Ismail, **Maizan Mohamed**, Yap Fon Kwei, Khoo Boon Yin. (2019). *Euphorbia hirta* methanolic extract displays potential antioxidant activity for the development of local natural products. *Pharmacognosy Research* 11 (1); 78-85
10. F. Baharudin, J. Sabri and **M. Mohamed**. (2019). Bacteria isolated from the reproductive tract of mares with types of pneumovagina in the tropics. *Equine Veterinary World* 51 (53); 6
11. TL Peng, M Mimi Armiladiana, HH Ruhil, **M Maizan**, SS Choong. (2019). First report of equine *Setaria digitata* (von Linstow 1906) infestation in Malaysia. *Veterinary Parasitology* 17; 1-5
12. Foyzal Ahammad , Tengku Rogayah Tengku Abd Rashid , **Maizan Mohamed**, Suriyea Tanbin and Fazia Adyani Ahmad Fuad (2019). Contemporary Strategies and Current Trends in Designing Antiviral Drugs against Dengue Fever via Targeting Host-Based Approaches. *Microorganisms* 7, 296
13. **M. Maizan**, M. S. Nani Izreen, I. Aziana, and I. A. Okene . (2018). In-Vitro Screening of Cytotoxicity and Potential Anti-Cancer Activity of Mangrove Crab Soup on Human Lymphoma Cell Line U937 . *Advanced Science Letters* 24: 6696–6698
14. E.A.R. Engku Nur Syafirah, A.B. Nurul Najian, Phiaw Chong Foo, Mohammad Ridhuan Mohd Alia, **Maizan Mohamed**, Chan Yean Yean. (2018). An ambient temperature stable and ready-to-use loop-mediated isothermal amplification assay for detection of toxigenic *Vibrio cholerae* in outbreak settings. *Acta Tropica* 182: 223-231
15. Ahmed, N., Zeshan, B., Naveed, M., Afzal, M., Mohamed, M. Antibiotic resistance profile in relation to virulence genes *fimH*, *hlyA* and *usp* of uropathogenic *E. coli* isolates in Lahore, Pakistan (2019). *Tropical Biomedicine* 36 (2), 559-568.

16. Zeshan, Basit ; Saleem, Mushtaq A.; Wattoo, Javed Iqbal; Arshad, Mohd Mokhtar; **Maizan Mohamed**.(2018). Cloning and Expression of Truncated Spike (Sf200) Glycoprotein of Infectious Bronchitis Virus (IBV) in Escherichia coli, and its Immunogenicity to Mice. *Pakistan journal of zoology* 50(3): 989-994.
17. N.F. Abdullah, B. Zeshan · N.E.M. Redhuan · **M. Mohamed** · N.H.A. Daud. (2018). Detection of equine herpesvirus infection: Conventional versus molecular approaches. *J Animal and Plant Sciences* 28(2):365-376
18. Li Peng Tan, Ruhil Hayati Hamdan , Maizan Mohamed, Siew Shean Choong , Yean Yean Chan , Seng Hua Lee (2018). Antibacterial activity and toxicity of Duckweed, Lemna minor L. (Arales: Lemnaceae) from Malaysia. *Malaysian Journal of Microbiology* 14(5): 387-392
19. Maizan Mohamed, Nani Izreen Mohd Sani, Aziana Ismail and Noor Fatmawati Mokhtar. (2017). Cytotoxicity and anti-cancer effect of mangrove crab (*Scylla serrata*) soup on human leukemic jurkat cells. *European Journal of Pharmaceutical and Medical Research* 4 (2): 192-195.
20. Phiaw Chong Foo, Yean Yean Chan, Maizan Mohamed, Weng Kin Wong, Nurul Najian Aminuddin Baki , Boon Huat Lim. (2017). Development of a thermostabilised triplex LAMP assay with dry-reagent four target lateral flow dipstick for detection of *Entamoeba histolytica* and non-pathogenic *Entamoeba* spp. Accepted for publication in *Analytica Chimica Acta*. <http://dx.doi.org/10.1016/j.aca.2017.02.019>
21. Nurul Najian Aminuddin Baki, Engku NorSyafirah EngkuAbd. Rahman, Nabilah Ismail, Maizan Mohamed, Yean Yean Chan.(2018). Development of Multiplex Loop Mediated Isothermal Amplification (m-LAMP) label-based Gold Nanoparticles Lateral Flow Dipstick Biosensor for Detection of Pathogenic *Leptospira*. *Analytica Chimica Acta*. 903, 142–148
22. M. Maizan, S. NurEliana, D. Zawiyah et al. (2014). In-house Loop Amplification (LAMP) method for the diagnosis of *Salmonella Paratyphi A* in low-resource settings. *Asian Pacific Journal of Tropical Disease* 4 (3): 251
23. A. Julia, S. NurEliana, H. Azura, AR Zaidah, H. Haslizai, A Ismail, I Aziah, M. Maizan. (2014). In-house Loop Amplification (LAMP) method for the diagnosis of *Salmonella Paratyphi A* in low-resource settings. *Asian Pacific Journal of Tropical Disease* 4 (3): 224
24. Nur-ElianaSaffie, Julia Abdullah, Maizan Mohamed. (2014). Establishment of an in-house loop-mediated isothermal amplification (LAMP) for a rapid detection of *Salmonella Typhi* and *Salmonella Paratyphi A* at low-resource settings. *Journal of Food Safety* ISSN 1745-4565

25. J. Abdullah, N. Saffie, M. Mohamed. (2014). Rapid detection of Salmonella Typhi by loop-mediated isothermal amplification (LAMP) method. *Brazilian journal of Microbiology* 45 (4): 1385-1391
26. Maizan M, Nurfadhilah MU, Tan SC. (2014). Sequence variation and co-receptor tropism prediction of V3 loop of HIV-1 from Kelantan, Malaysia. *International Journal of Microbiology and Immunology Research* 2(5):63-70
27. Maizan M, C.W. Salma CWZ, Fadhilah K, Zaidah AR, and Phua KK. (2014). Detection of mutation in QRDR of gyrA gene of drug-resistant Salmonella Typhi isolates from Kelantan, Malaysia using PCR-RFLP and DNA sequencing. *International journal of Medical Sciences and Biotechnology* 6 : 27-36
28. Rasyada AR., Aziana I, Shaharum S and Maizan M. (2014). Expression and cytotoxic effect of purified HlyE recombinant protein of Salmonella enteric serovarTyphi on U937 human monocytic cell. *International Journal of Microbiology and Immunology Research* 2(2): 015-023
29. S.H. Sharifah, M.N. Suriani, M. Maizan, G.H. Ong, D. Azizah, K. Suzana, A.R. Omar and I. Aini (2013). Potency and efficacy of a low pathogenic H5N2 inactivated vaccine against challenge with a Malaysian H5N1 highly pathogenic avian influenza virus. *J Vet. Malaysia*, 25 (1): 1-6.
30. S.H. Sharifah, K. Hasuzana, M.N. Suriani, M. Maizan, G.H.. Ong, D. Azizah, A.R. Omar and I.Aini (2013). Moderately-high humoral antibody responses to a H5N2 inactivated vaccine did not suppress shedding of highly pathogenic H5N1 Avian Influenza virus during challenge. *J Vet. Malaysia* 25 (1): 27-30
31. Vinod RMT Balasubramaniam, Sharifah S Hassan, Abdul R Omar, Maizan Mohamed, Suriani M. Noor, Ramlan Mohamed and Iekhsan Othman. (2010). Cellular transcripts regulated during infections with Highly Pathogenic H5N1 Avian Influenza virus in 3 host systems. *Virology* 8:196. doi: 10.1186/1743-422X-8-196
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33. Ong, GH, Suriani MN, Syamsiah AS, Maizan M. (2010). Development of indirect avian Influenza ELISA test using Malaysian local isolate H5N2. *Malaysian Journal of Veterinary Research* 1 (1):19-21

34. Rasoli M, Omar AR, Aini I, Jalilan B, Syed Hassan SH, Mohamed M. (2010). Fusion of HSP70 gene of Mycobacterium tuberculosis to hemagglutinin (H5) gene of avian influenza virus in DNA vaccine enhances its potency. *Acta Virol.* 54:33-39
35. Sharifah, S.H., Sohayati, A.R., Maizan, M., Chang, L.Y., Sharina, M., Syamsiah, A.K., Latiffah, K., Arshad, S.S., Zaini, C.M., Humes, F., Daszak, P. and Epstein, J. (2009). Genetic characterization of a nipah virus isolated from Pteropus vampyres in Malaysia. *Neurology Asia:* 67-69
36. Maizan Mohamed, Angela Mclees, and Richard M. Elliot. (2009). Viruses in the Anopheles A, Anopheles B, and Tete serogroups in the orthobunyavirus genus (family bunyaviridae) do not encode an NSs protein. *Journal of Virology* 83: 7612-7618
37. Kono, Y., Yusnita, Y., Mohd Ali, A.R. Maizan, M., Sharifah, S.H., Fauziah, O., Kubo, M. & Aziz, A.J. (2002). Characterization and identification of Oya virus, a Simbu serogroup virus of the genus bunyavirus, isolated from a pig suspected of nipah virus infection. *Arch. Virol.* 147:1623-1630
38. Maizan, M., Mohd. Ali, A.R. & Sharifah, S.H. (2000). Identification and distinction between nipah virus and hendra virus using RT-PCR, sequencing and restriction enzyme analysis. *Asia-Pacific J. Mol. Biol. and Biotech* 8(2):126-129
39. Maizan, M., Abdul Aziz, H., Sharifah, S.H. and Loganathan, P. (1994). Isolation of Parainfluenza type 3 and Ovine Herpes Viruses associated with respiratory disease complex in sheep. *J. Vet. Malaysia* 6 (1):43-45.
40. Sharifah, S.H., Mohd. Ali, A.R., Hussin, A.A., Maizan, M. and Zainal, M. (1994). Experimental infection of sheep with Malaysian bluetongue virus isolates. *J. Vet. Malaysia*, 6(2):95-97.

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