



DR SUVIK ASSAW

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QUALIFICATIONS

- Post-Doctoral (Pharmacology), Universiti Sains Malaysia
- Doctor of Philosophy (Biomedicine), University of Nottingham, United Kingdom
- Master of Science (Biotechnology), Universiti Malaysia Terengganu
- Bachelor of Science (Biological Sciences), Universiti Malaysia Terengganu

FIELD OF RESEARCH

- Biotechnology and Biomedical Sciences
- Pharmacology and Cell Signaling
- Marine Natural Products
- Inflammatory and wound healing
- Histopathology

RESEARCH INTEREST

Even though, 70% of the earth's surface is covered by water, but research into marine organism pharmacology is limited, and most of it remains unexplored. My research focuses mainly on looking to potential of marine resources as anti-inflammatory, anti-diabetic, antioxidant, anti-cancer, toxicity studies, wound healing promoter and antibacterial. These studies integrate biotechnological and biomedical approaches that can also be applied to marine biology research, such as in vitro and in vivo studies (rodents/artemia/fish embryo), histology techniques, microbiology, gene expression (qRT-PCR), ELISA and immunohistochemistry. Currently, we are using carrageenan (seaweed agar) and bacterial toxin lipopolysaccharides (LPS) to induce inflammation in the animal and cell model. These inflammogens are known to trigger intracellular signaling pathways (Toll-Like Receptor 4) that lead to the upregulation of gene encoding and eventual release of pro-inflammatory molecules such as cytokines and chemokines. Therefore, in UMT, we are interested in looking at the potential of marine resources to treat TLR-induced inflammation and pain in the skin and cell culture assays rather than using conventional synthetic pharmaceutical drugs. In addition, I am

also interested in studying the association of immune cells with polymorphonuclear leukocytes (PMNs) and the role of peroxisome proliferator-activated receptor (PPARs) ligand-activated transcription factors in inflammation and disease generation.

RESEARCH PROJECTS

- Elucidation of anti-inflammatory mechanisms of vitexicarpin and its analogue on immune cells activation
- Effect of Dietary Astaxanthin-Rich Green Microalgae (*Hematococcus Pluvialis*) on Anti-Aging Process
- Potential of marine natural products as anti-inflammatory and wound healing study *in vitro* and *in vivo*
- Elucidation of Secalonic Acids from mangrove-Derived Endophytic Fungus *Asperigillus aculeatus* on Radical Scavenging and iNOS activity

Expert Linkages

- University of Nottingham, United Kingdom
- Umm Al-Qura University, Saudi Arabia
- Universiti Sains Malaysia
- Universiti Putra Malaysia
- Universiti Islam Antarabangsa
- Universiti Sultan Zainal Abidin

PROFFESIONAL MEMBERSHIP

- Malaysian Association of Veterinary Pathology (MAVP)
- Laboratory Animal Science Association of Malaysia (LASAM)
- Asian Federation of Biotechnology (AFOB)

GRANTS

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|------------|---|---|
| Project | : | Elucidation of anti-inflammatory mechanisms of vitexicarpin and its analogue on immune cells activation |
| Position | : | Project Leader |
| Grant Name | : | KPT Fundamental Research Grant Scheme (FRGS) |
| Status | : | Active |
| Amount | : | RM 96 200 |

Project : Effect of Dietary Astaxanthin-Rich Green Microalgae (*Hematococcus Pluvialis*) on Anti-Aging Process

Position : Co-Researcher

Grant Name : Post Graduate Research Grant UMT (PGRG)

Status : Active

Amount : RM 30 000

Project : Elucidation of Secalonic Acids from mangrove-Derived Endophytic Fungus *Asperigillus Aculeatus* on Radical Scavenging and iNOS activity

Position : Co-Researcher

Grant Name : UMT Talent and Publication Research Grant (TAPE-RG)

Status : Completed

Amount : RM 20 000

Project : Molecular docking, synthesis and insilico biological evaluation of benzamide derivatives towards targeting the inhibitory of PCSK9 gene expression as potential treatment for atherosclerosis

Position : Co-Researcher

Grant Name : KPT Fundamental Research Grant Scheme (FRGS)

Status : Completed

Amount : RM 69 200

AWARDS

- Anugerah Pkhidmatan Cemerlang (APC 2018)
- Pingat Gangsa Minggu Penyelidikan Inovasi 2018
- Best Oral Presenter 5Th International Biotechnology Symposium 2017, Universiti Malaysia Sabah
- Silver Medal, Geneva Invention 2011 Switzerland.
- Silver-BioInno Award 2010, Kuala Lumpur
- Anugerah Malim Ilmu 2008 & 2009 (Produk & Inovasi) Antarabangsa dan Kebangsaan.
- Silver Medal- 8th Malaysian Technology Expo (MTE) 2009 Kuala Lumpur.
- Bronze BioInno Awards Kuala Lumpur
- Bronze 20th International, Innovation & Technology Exhibition (ITEX 2009)
- Anugerah Naib Canselor UMT 2007.

PUBLICATIONS

Journal Article

1. Nurul Husna Azizul, Wan Amir Nizam Wan Ahmad, Nurul Laili Rosli, Muhammad Aniq Hamzah Mohd Azmi, Choo En Liang, Noor Wini Mazlan, **Suvik Assaw**. 2021. The coastal medicinal plant *Vitex rotundifolia*: a mini-review on its bioactive compounds and pharmacological activity. *Traditional Medicine Research*. 6(2):11. 1-10. DOI:10.12032/TMR20201128209
2. Nor'Awatif Che Soh, Hannah Syahirah Rapi, Nurul Shahirah Mohd Azam, Ramesh Kumar Santhanam, **Suvik Assaw**, Mohd Nizam Haron, Abdul Manaf Ali, M Maulidiani, Izwandy Idris, Wan Iryani Wan Ismail. 2020. Acute Wound Healing Potential of Marine Worm, *Diopatra claparedii* Grube, 1878 Aqueous Extract on Sprague Dawley Rats. *Evidence-Based Complementary and Alternative Medicine*. 1-14. doi.org/10.1155/2020/6688084
3. Hannah Syahirah Rapi, Nor'Awatif Che Soh, Nurul Shahirah Mohd Azam, M Maulidiani, **Suvik Assaw**, Mohd Nizam Haron, Abdul Manaf Ali, Izwandy Idris, Wan Iryani Wan Ismail. 2020. Effectiveness of aqueous extract of marine baitworm *Marphysa moribidii idris*, hutchings and arshad, 2014 (Annelida, polychaeta), on acute wound healing using sprague dawley rats. *Evidence-Based Complementary and Alternative Medicine*. 1-15. doi.org/10.1155/2020/1408926.
4. Logeiswariy Perumal, Nor 'Awatif Che Soh, Hannah Syahirah Rapi, **Suvik Assaw**, Mohammad Ameerul Amin Bakar @ Omar, Izwandy Idris and Wan Iryani Wan Ismail. 2020. Aqueous extract emulsifying ointment of *Marphysa moribidii* (Annelida: Polychaeta) increases collagen deposition in wound healing model at low concentration. *Malaysian Applied Biology Journal*. 49 (4): 223-231.
5. Gee Enn Lau, Che Azurahaman Che Abdullah, Wan Amir Nizan Wan Ahmad, **Suvik Assaw** and Alcin Lim Teik Zheng. 2020. Eco-Friendly Photocatalysts for Degradation of Dyes. *Catalysts*. 10(10)1129. doi.org/10.3390/catal10101129.
6. Bayan Yousef AL-Tarifi, Azizah Mahmood, **Suvik Assaw** and Hassan I. Sheikh. 2020. Application of Astaxanthin and its Lipid Stability in Bakery Product. *Current Research in Nutrition and Food Science*.8(3):962-974. dx.doi.org/10.12944/CRNFSJ.8.3.24
7. Bayan Yousef AL-Tarifi, Azizah Mahmood, **Suvik Assaw** and Hassan I. Sheikh. 2020. Comparison of Different Organic Solvents on Antioxidant Activity of Astaxanthin Extracted from *Hematococcus Pluvialis* Using Colorimetric and Non-Colorimetric Methods. 36(3):466-473. dx.doi.org/10.13005/ojc/360316.
8. Insyirah-Husna K., **Suvik A.**, Hassan Sheikh., Effendy AWM. 2020.Potential of Chlorella sp. exopolysaccharide as adjuvant for *Mannheimia haemolytica* A2 Vaccine in rats model. *Songklanakar Journal of Science and Technology*. Article in Press (Accepted).
9. **Suvik A**, MIH Mohd Amir, TT Khaw, K Bakar, M Radzi, SMR Aisha, NW Mazlan. Antibacterial and antioxidant activity of naphthofuranquinones from the twigs of tropical mangrove *Avicennia officinalis*. 2019. *Natural Product Research*.1-4.
10. Wong, PL, **Suvik A**, Mohd AL, Nasrenim S, and Hayati MY. Sub-acute toxicity of black seed (*Nigella sativa*) and honey mixture. *Malaysian Applied Biology Journal*. 74(6): 11-18.

11. **Suvik A**, NL Rosli, NAM Azmi, NW Mazlan, N Ismail. 2018. Antioxidant and antibacterial activities of polysaccharides and methanolic crude extracts of local edible red seaweed *Gracillaria* sp. Malaysian Applied Biology Journal. 47 (4).135-144.
12. **Suvik A** & Effendy AWM. 2017. Sub acute oral toxicity screening on jellyfish *Lobonema smithi* consumption in Sprague Dawley rats. Malaysian Applied Biology Journal. 46(3):207-216.
13. **Suvik, A.** & Effendy, A. W. M. 2016. Potential of Malaysian white type edible jellyfish *Lobonema smithii* as antioxidant and collagen promoter in dermal wound of Sprague Dawley rats. Middle-East Journal of Scientific Research. 24 (6). 2137-2144
14. Devonshire, I. M., Kwok, C. H., **Suvik, A.**, Haywood, A. R., Cooper, A. H., & Hathway, G. J. (2015). quantification of the relationship between neuronal responses in the rat rostral ventromedial medulla and noxious stimulation-evoked withdrawal reflexes. European Journal of Neuroscience, 42(1), 1726-1737. doi:10.1111/ejn.12942.
15. AA Shamsuddin, M Najiah, **A Suvik**, MN Azariyah & BY Kamaruzzaman. 2013. Antibacterial properties of selected mangrove plants against *Vibrio* species and its cytotoxic against *Asteria salina*. World Applied Science Journal. 25 (2),333-340.
16. **Suvik, A.**, & Effendy, A. W. M. (2012). The use of modified Masson's Trichrome staining in collagen evaluation in wound healing study. Malaysian Journal of Veterinary Resource. 3, 39-47.
17. Ajlia, S. A., Majid, F. A., **Suvik, A.**, Effendy, M. A., & Nouri, H. S. (2010). Efficacy of papain-based wound cleanser in promoting wound regeneration. Pakistan Journal of Biological Sciences, 13(12), 596-603.

Conference Publication

1. **Suvik A**, Rosli NL, Choo EL, Azmi MAHM, Rasdi NA, Ahmad WANW, Zaman NIU, Azizul NH, Wahid MAE & Mazlan NW. 2020. Anti-inflammatory and analgesic effect of *Vitex rotundifolia* fruit extract and isolated vitexicarpin in acute inflammatory model. Proceeding of the 13th Seminar on Science and Technology (S&T 2020) 6-7th October 2020. 150-154. e-ISSN 2735 2226.
2. Al-Tarifi BY, Mahmood A, **Suvik A**, & Sheikh H.I. 2020. Astaxanthin: Current studies of anti-inflammatory and anti-proliferative mechanism in RAW264.7 and MCF-7 Cells. Proceeding of the 13th Seminar on Science and Technology (S&T 2020). 6-7th October 2020. 47-50. e-ISSN 2735 2226.

SUPERVISION

Doctor of Philosophy Degree

Thesis Title : The Effect of Dietary Astaxanthin-Rich from Green Microalgae *Hematococcus Pluvialis* On Anti-Aging Process
Student Name : Bayan Yousef Ata Altarifi
Role : Co-Supervisor (UMT)
Status : On-Going

Master Degree

Thesis Title : Elucidation of Anti-Inflammatory Mechanisms of Vitexicarpin On Immune Cells Activation *In Vitro* And *In Vivo*
Student Name : Nurul Laili Binti Rosli
Role : On-Going
Status : Main Supervisor (UMT)

Thesis Title : Elucidation of Exopolysaccharide Produced by *Chlorella Vulgaris* As Adjuvant for *Mannheimia Haemolytica* A2 Vaccine In Goat
Student Name : Insyirah Husna Binti Kamaradin
Role : Co-Supervisor (UMT)
Status : Graduated

Thesis Title : Antioxidant and Anti-Inflammatory Activities of *Pandanus Tectorius* Active Fractions Through Nitric Oxide Reductions
Student Name : Nadiah Madihah Binti Ramli
Role : Co-Supervisor (UMT)
Status : Graduated

Thesis Title : The Assessment on The Effect of Herbal Formulation of R-38 Water Extract in Oral Toxicity Study
Student Name : Anis Amirah Binti Mohamad
Role : Co-Supervisor
Status : On-Going

Thesis Title : The Assessment on The Effect of Herbal Formulation of R-38 Water Extract in Oral Toxicity Study
Student Name : Anis Amirah Binti Mohamad
Role : Co-Supervisor
Status : On-Going

Thesis Title : The Assessment on The Effect of Herbal Formulation of R-38 Water Extract in Oral Toxicity Study
Student Name : Noor Suryani Binti Musa
Role : Co-Supervisor (UMT)
Status : On-Going

Thesis Title : Evaluation of Fructus Viticis Methanolic Crude Extract As Anti-oxidant and Anti-Inflammatory In Carrageenan Induced Acute Paw Oedema
Student Name : Nurul Husna Binti Azizul
Role : Co-Supervisor (USM)
Status : Graduated

COURSE TAUGHT

- Methods and Instrumentation in Marine Biology (MMB3003)
- Management and Conservation of Marine Biodiversity (MMB4300)
- Environment and Human (MMS3001)
- Aquatic Methods and Instrumentation (MMS3201)
- Biochemistry (BIO3001)

LINKS

- SCOPUS ID: 37012323600 & 57205335121
- WoS : X-6575-2018
- Researchgate: https://www.researchgate.net/profile/Suvik_Assaw
- LinkedIn: <https://www.linkedin.com/in/suvik-assaw-326a3918/>
- ORCID : <https://orcid.org/0000-0002-9597-3707>
- Google Scholar: https://scholar.google.com/citations?user=iD0_w6YAAAAJ&hl=en
- Facebook: <https://m.facebook.com/Suvik-Phutmanee-368365423768583/>

OTHERS

- Head of Animal and Human Ethic Committee (JKEP) Universiti Malaysia Terengganu
- SCUBA Diver
- Associate Fellow of Institute of Marine Biotechnology, UMT
- Journal Reviewer

Journal Reviewer

- Natural Product Research (NPR)
- Malaysian Applied Biology Journal (MABJ)
- Asia Pacific Journal of Molecular Biology and Biotechnology (APJMBB)
- Journal of Sustainability Science and Management (JSSM)