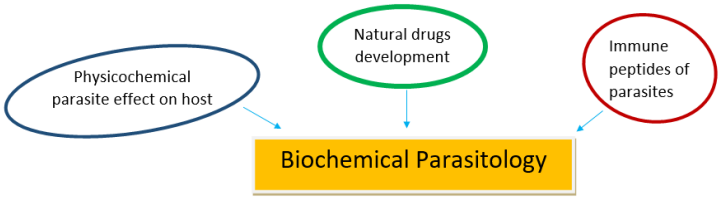
Biochemical Parasitology: Phytochemical properties and effect on Nematodes

Joshua Angelo H. Mandanas, RMT, MPHTM, MBT, PGC

Abstract

Statement of the Problem: Parasitological study in terms of host biomolecule-parasite interaction, drug development and immunologic effects are covered by studying the biochemical aspects of parasite and secreted factors plus native characteristics of parasite proteins. With the advent of anti-helminthic resistance reports all around the world coupled by the one health approach, drug development derived from natural products can be warranted. **The purpose of the lecture:** is to enlighten minds that field of Biochemical Parasitology is necessary for drug development, molecular interaction and immunologic analysis. **Methodology & Theoretical Orientation:** Qualitative phytochemical analysis using both inorganic & organic reagents, ethanolic extraction & bioinformatics tools. **Findings:** Recent experiment shows significant inhibition of ethanolic extract of *Tabernaemontana pandacaqui* Lam. upon exposure of the model nematode during 24 and 48 hours. Phytochemical analysis was correlated with the effects of parasite to host. Biochemical analysis also covers parasite peptides and molecular interaction with the host. Molecular modelling is now possible and physicochemical analysis such as effect of hydrogen bonding, parasite peptide interaction and structure can now be modelled and studied. Developments in biochemical research for parasites also revealed immune effector properties of parasite derived peptides which can form and shape future of parasitic research. **Conclusion & Significance:** Biochemical basis of parasitologic study covers drug development, molecular analysis of peptides and immune regulator function of parasites.

Image



Recent Publications

1. Mandanas (2018). *Tabernaemontana pandacaqui* Poir ethanolic leaf extract phytochemical analysis and in vitro effect on adult *Caenorhabditis elegans*. J Bacterial Parasitol 2018, Volume 9. 10.4172/2155-67-C2-050
2. Mandanas et al., (2017). Determination of factors associated with Nutritional Factors of children aged 0 to 5 years in an urban poor community in Pasay City, Philippines. SICEM ABS0038.
3. Mandanas (2017). Molecular techniques for the study and diagnosis of parasite infection (medically important helminths.UPMCPH.2017.1-14
4. Mandanas, 2016. Antibiotic Resistance of Medically important bacteria across ASEAN countries. UPMCPH.2016. 1-12
5. Mandanas, 2014. Isolation and Identification of *Vibrio cholera* on local mussels sold at Binan City Public Market. UPH.2014. 1-40



Biography

Joshua Angelo H. Mandanas is the youngest son of Mr. Jaime & Ma. Sharon Mandanas. He was the batch valedictorian, both in his secondary (MBMS) & collegiate year (UPHDGTMU).
He finished BS in Medical Technology with Latin honor "*Magna cum laude*" & one of the academic awardee of Philippine Association of Medical Technologists. He became one of the youngest Philippine National Board Reviewer, Research Consultant and International lecturer at the age of 21. He successfully finished two degrees, under different colleges in University of the Philippines Manila, (Tropical Medicine major and Certificate /Post graduate/Lateral Doctorate in Molecular Biochemistry). He is a Tropical Medicine Specialist focusing in Biochemical Parasitology & Nutrition, specialized in drug and biochemical studies for nematodes. He is also a Biochemical Educator with specialty in Molecular Viral Mechanisms & a Vaccine Development Scientist. He is a trained Molecular Biotechnologist specialized in drug and diagnostics development for infectious diseases.

Email: jhmandanas@up.edu.ph