



Analytic Factors of Parasitic Protozoa and its Strategies

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DESCRIPTION

Parasitic infections are a major health burden in developing countries and contribute significantly to morbidity and mortality. These infections are often associated with significant changes in clinical symptoms.

Parasite protozoa use different feeding strategies, some of which can change feeding methods at different stages of their life cycle. For example, *Plasmodium malariae*, which feeds by pinocytosis during the immature vegetative life stage (ring phase), develops a special feeding organella (cell mouth) as it matures in the host's red blood cells increases.

Protozoan infections are a serious public health problem in poor and developing countries with poor hygiene. Protozoa are unicellular microorganisms that can be free or parasitic in nature. Parasites can reproduce in mammals, which contributes to the survival of the mammal and also allows of a single organism to develop a severe infection. Protein phosphorylation and dephosphorylation are important mechanisms involved in the regulation of cellular activity in all organisms. Kinase and phosphatase class antagonists regulate the reversible phosphorylation. Protozoan parasites can survive under a variety of environmental conditions by utilizing host surface proteins through phosphorylation/dephosphorylation of Ser/Thr and Tyr residues. It helps inhibit cell proliferation and parasite-host interactions.

Since phosphatases are so important both at the forefront of research and at the target of drug development, the diversity of phosphatase actions underscores the need to understand the complexity of the network of signaling pathways in protozoal

parasites. Parasites are organisms that feed on other organisms and hosts to survive. Some parasites do not have a noticeable effect on the host.

Others grow, multiply, or invade the organ system that makes the host sick, causing a parasitic infection. Parasitic infections are a major problem in the tropical and subtropical regions of the world. Malaria is one of the most deadly parasitic diseases. Parasitic infections can also occur in the United States. The most common parasitic infections found in the United States are:

- Trichomonas disease
- Giardiasis
- Cryptosporidium disease
- Toxoplasmosis

The term emerging and re-emerging infectious diseases is, which has recently emerged or existed, but is associated with a group of diseases with rapidly increasing incidence or changing geographic distribution. Among the pathogens and parasitic protozoa has become a global health problem worldwide. Diseases caused by new parasites share the need for standardized diagnostic tools and the lack of fully effective treatments.

In this study, compound isolated from a plant called *Withania aristata* was highlighted as a new potential drug for these protozoa. In addition, curcumin-containing molecules have been shown to be useful in the *Entamoebidae* family, especially as an anti-*Acanthamoeba* agent and for the ursolic acid derivatives found in olive leaves that are being evaluated for the treatment of the genus *Diargia*.

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