



BioMed Research International

Special Issue on
Heat Shock Proteins and Proteases of Human Parasites

CALL FOR PAPERS

Several parasites infect humans causing some of the most debilitating diseases and in certain cases deaths. Whereas some human parasites replicate intracellularly, others survive in extracellular environments. The human host is endowed with several defense mechanisms to counter such infections. Thus, the development and progression of infectious disease are a function of the host-parasite interaction.

Heat shock proteins are highly conserved and mainly function as molecular chaperones to facilitate protein folding and to maintain protein homeostasis. Many heat shock proteins are expressed in response to physiological stress. Parasites tend to have a high pool of the constitutively expressed heat shock proteins that exhibit a fairly long half-life. Thus, heat shock proteins appear to play a prominent role in mediating the host-parasite interaction. The role of parasite chaperones becomes prominent as parasites seek to adapt to the unfavorable conditions prevailing in the host.

While it is conceivable that the production of heat shock proteins by parasites may be required to meet the extra protein folding requirements during infection, it is intriguing how parasites regulate the expression of these proteins to facilitate the infectious life cycle. This is important because some heat shock proteins become toxic in large quantities. In addition, heat shock proteins occur in organisms in structurally distinct groups that functionally cooperate. In particular, as molecular chaperones, heat shock proteins cooperate with proteases in the management of cellular protein quality control. Thus, the coordinated expression of heat shock proteins and proteases by parasites in time and space is critical to their development in the host.

We invite investigators to contribute research and review articles that focus on the role of heat shock proteins and proteases in the development and pathogenicity of human parasites. Review articles must discuss topical issues on the subject and address new avenues of research in this field.

Potential topics include, but are not limited to:

- ▶ Role of heat shock proteins/proteases in the development of intracellular and extracellular human parasites
- ▶ Prospects of heat shock proteins/proteases as potential drug targets of parasitic diseases
- ▶ Role of extracellular heat shock proteins/proteases in the development of parasitic diseases
- ▶ Role of heat shock proteins of parasitic origin in host-immune modulation
- ▶ Genome wide or high-throughput studies on heat shock proteins and proteases of parasites

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/bmri/parasitology/hsp/>.

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First Round of Reviews

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