

A small heat shock proteins: Present understanding and future prospective

Manish Kumar Singh, Bechan Sharma, P.K. Tiwari



PII: S0306-4565(17)30068-2
DOI: <http://dx.doi.org/10.1016/j.jtherbio.2017.06.004>
Reference: TB1944

To appear in: *Journal of Thermal Biology*

Received date: 18 February 2017
Revised date: 30 May 2017
Accepted date: 3 June 2017

Cite this article as: Manish Kumar Singh, Bechan Sharma and P.K. Tiwari, A small heat shock proteins: Present understanding and future prospective, *Journal of Thermal Biology*, <http://dx.doi.org/10.1016/j.jtherbio.2017.06.004>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

A small heat shock proteins: Present understanding and future prospective

Manish Kumar Singh¹, Bechan Sharma², P K Tiwari^{3*}

¹Department of Zoology, Banaras Hindu University, Varanasi- 221005

²Department of Biochemistry, University of Allahabad , Allahabad -211002

³Centre for Genomics, Jiwaji University, Gwalior-474001

* Corresponding author. Phone: +91-751-4016772 / 4010826; Fax: 0751-2341450 / 4016789.

pk_tiwari@hotmail.com

Abstract

Heat shock proteins are important for maintaining protein homeostasis and cell survival. Among different classes of highly conserved Hsps, small low molecular weight Hsps have significant place, particularly of Hsp27, whose role has been demonstrated in wide range of biological processes, including development, immunity, diseases and therapy. In this review, the structure and functions of Hsp27 and related genes, their role in different cellular processes as well as in stress tolerance is highlighted.

Key words

Hsp27, α -crystallin, apoptosis, development, *Lucilia cuprina*, *Drosophila*

Introduction

Small heat shock proteins (sHsps) are a group of proteins which express ubiquitously from prokaryotes to eukaryotes. Small Hsps are structurally different from other Hsps due to their less nucleotide and amino acid sequence conservation. It consists of eleven members that are characterized by a molecular signature i.e. a conserved crystallin domain, flanked by variable N and C-terminal. Hsp27 (HspB1), α A-crystallin (HspB4) and α B-crystallin (HspB5), are studied

Download English Version:

<https://daneshyari.com/en/article/5593331>

Download Persian Version:

<https://daneshyari.com/article/5593331>

[Daneshyari.com](https://daneshyari.com)