










ORF-C4 from the early branching eukaryote giardia lamblia displays characteristics of α -crystallin small heat-shock proteins

Norés, María Jimena , Prucca, César Germán , Quiroga, Rodrigo , Elías, Eliana Vanina , Cavallín, Lucas, Price, Argenta M. , Saura, Alicia , Carranza, Pedro Gabriel , Gottig, Natalia , Solari, Alberto J. and Luján, Hugo Daniel  (2009) *ORF-C4 from the early branching eukaryote giardia lamblia displays characteristics of α -crystallin small heat-shock proteins*. Bioscience Reports, 29 (1). pp. 25-34. ISSN 18680481

El texto completo no está disponible en este repositorio.

Resumen

Giardia lamblia is a medically important protozoan parasite with a basal position in the eukaryotic lineage and is an interesting model to explain the evolution of biochemical events in eukaryotic cells. G. lamblia trophozoites undergo significant changes in order to survive outside the intestine of their host by differentiating into infective cysts. In the present study, we characterize the previously identified Orf-C4 (G. lamblia open reading frame C4) gene, which is considered to be specific to G. lamblia. It encodes a 22 kDa protein that assembles into high-molecularmass complexes during the entire life cycle of the parasite. ORF-C4 localizes to the cytoplasm of trophozoites and cysts, and forms large spherical aggregates when overexpressed. ORF-C4 overexpression and down-regulation do not affect trophozoite viability; however, differentiation into cysts is slightly delayed when the expression of ORFC4 is down-regulated. In addition, ORF-C4 protein expression is modified under specific stress-inducing conditions. Neither orthologous proteins nor conserved domains are found in databases by conventional sequence analysis of the predicted protein. However, ORF-C4 contains a region which is similar structurally to the α -crystallin domain of sHsps (small heat-shock proteins). In the present study, we show the potential role of ORF-C4 as a small chaperone which is involved in the response to stress (including encystation) in G. lamblia.

Tipo de documento:

Artículo

DOI:

<https://doi.org/10.1042/BSR20080101>

Palabras clave:

α -crystallin domain. Chaperone. Oligomerization. Parasite. Small heat-shock protein (sHsp). Stress.

Temas:

[R Medicina > R Medicina \(General\)](#)

Unidad académica:

[Universidad Católica de Córdoba > Facultad de Ciencias de la Salud](#)