Characterization of 14-3-3 isoforms expressed in the Echinococcus granulosus pathogenic larval stage

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The 14-3-3 protein family of eukaryotic regulators was studied in Echinococcus granulosus, the causative agent of cystic hydatid disease. These proteins mediate important cellular processes in eukaryotes and are expected to play important roles in parasite biology. Six isoforms of E. granulosus 14-3-3 genes and proteins (Eg14-3-3.1-6) were analyzed, and their phylogenetic relationships were established with bona fide 14-3-3 orthologous proteins from eukaryotic species. Eg14-3-3 isoforms with previous evidence of expression (Eg14-3-3.1-4) in E. granulosus pathogenic larval stage (metacestode) were cloned, and recombinant proteins were used for functional studies. These protein isoforms were detected in different components of E. granulosus metacestode, including interface components with the host. The roles that are played by Eg14-3-3 proteins in parasite biology were inferred from the repertoires of interacting proteins with each isoform, as assessed by