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# Molecular Characterization of a 70 kDa Heat Shock Protein (HSP70) Gene in Entamoeba dispar

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## Abstract:

Amebiasis caused by Entamoeba histolytica is still mentioned as one of the major health problems in tropical and subtropical areas. E. histolytica has recently been redescribed as two distinct species; E. histolytica and E. dispar. In the present study, we characterized the 70 kDa Heat Shock Protein (HSP70) of E. dispar at molecular level and compared it with that of E. histolytica. With these findings, we were able to distinguishe E. dispar from the infectious E. histolytica. Pairs of 21 nucleotide primers were designed from highly conserved regions of the same gene in other eukaryotic cells. Mentioned primers were utilized in PCR by using isolated genomic DNA template of E. dispar and the PCR fragments were then sequenced. By the time, 1020 nucleotides have been sequenced and characterized within open reading frame of this new gene which encode a polypeptide with 337 amino acids. Nucleotide sequence comparison in gene data banks (NCBI, NIH) for both the partial DNA and its deduced amino acid sequence revealed significant homology with members of the eukaryotic 70 kDa HSP family. Small parts of the mentioned sequences from E. dispar were about 100% identical to the sequences of 70 kDa HSP from E. histolytica other eukaryotic cells. The new partial gene fragment and its encoded protein have been submitted to the gene data banks (NCBI, NIH) and registered under the accession number of AY763790.

## Keywords:

DNA

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