CHARACTERIZATION OF GROUPER HSP90 INTERACTED WITH NODAVIRUS COAT PROTEIN IN REPLICATION

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HSP90 (heat-shock protein 90), temperature-dependent protein possesses chaperone activity and involves in protein folding, signal transduction, or stress defense in cell. The aim of the present study is to evaluate the relationship between HSP90 and nodavirus replication. Coimmunoprecipitation experiments have revealed that HSP90 is associated with viral coat protein (CP). HSP90 transcription is downregulated by RNA interference and shows low virus replication. Additionally, nodavirus infection is inhibited by a recombinant HSP90. HSP90-fused green fluorescent protein (GFP) indicates that HSP90 is located on the position near the nucleus. Thus, we demonstrate here that HSP90 interacts with viral CP in vivo by using analysis of fluorescence resonance energy transfer (FRET). Taken together, grouper HSP90 is required for nodavirus replication.