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# COMBINATORY EFFECTS OF BOVINE HSP70 INDUCER AND SIRNAS ON EXPRESSION PROFILE OF PATHOGEN RECOGNITION RECEPTORS

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**D**espite its chaperone and stress tolerance actions, heat shock protein-70 (HSP70) is known to modulate immune status of an individual. The aim of the present study was to explore the modulatory effects of an HSP70 inducer Geranyl geranyl acetone (GGA) on the in-vitro expression profile of bovine major pattern recognition receptors (PRRs) viz. Toll-like receptors-2/4 (TLR2/4) and NOD-like receptors-1/2 (NOD1/2). The expression levels in NOD1/2 and TLR2/4 in GGA induced groups were significantly ( $P<0.01$ ) upregulated than the non-induced groups. However, among all the PRRs, the highest level of expression was observed in TLR4, followed by NOD2, TLR2, and NOD1. Further, we observed that after treatment with HSP70 specific siRNAs on GGA induced cells, significantly ( $P<0.01$ ) down regulates all the four receptors. Future understanding the basic molecular mechanisms of interaction between the PRRs and HSP70 will make it potential to realistically modulate immune responses towards immunity or thermal tolerance in cattle during summer stress.

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