

EXPRESSION KINETIC STUDY OF HSP70 GENE ASSOCIATED TRANSPORTATION STRESS OF *TENUALOSA ILISHA* (HAMILTON 1822)

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*The Farakka Barrage has caused a decline in Hilsa (*Tenualosa ilisha*) populations in the Ganga River's upper stretch. To restore the population, a ranching program was launched in 2019. This study evaluates Hsp70 gene expression during transportation, highlighting its importance as a stress assessment and survival improvement biomarker. Results showed weak Hsp70 expression in control fish (ratio 0.85), while transported fish exhibited ratios between 1.16 and 3.6. Stress increased significantly after 5 km of transport, with RNA quality ranging from 1.20 ± 0.11 to 1.80 ± 0.11 $\mu\text{g}/\text{mg}$ and a decline in RNA: DNA ratio, indicating heightened stress levels. The study found that the Hsp70 gene's expression varied depending on distance. Understanding these factors can help develop new protocols to reduce stress and increase survival rates.*

Keywords: Biological Factors, Biomarkers, Heat Shock Protein, Stress, Transportation
