The Effect of Copper (Cu^{2+}) on the Level of the Heat Stress Protein HSP 70, in Blue Mussels (*Mytilus edulis*) and its Potential as a Biomarker

Heat shock proteins (HSP) are commonly investigated when organisms are under stress because they are synthesized and used when a cell is under any sort of stress. Subsequently they make great biomarkers when there is something toxic in the water. In this experiment the heat stress protein, HSP 70 was evaluated in *Mytilus edulis* and the effect copper has on its levels. Blue mussels were collected and exposed to three different treatments of copper, 0 μgl^{-1}, 25 μgl^{-1}, and 50 μgl^{-1}. The gill, mantle and foot were extracted and samples were analyzed using the western blot procedure. The results were inconclusive due to lack of bands on most gels but what few bands were there showed that there is a positive response between HSP 70 in the gills of the blue mussels and copper, while the other two organs were inconclusive. The potential as a biomarker isn't addressed in this paper, due to lack of results in the first experiment, however work can still be done.

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