Tolerance and Cell Viability of N-Hexanoyl-L-Homoserine Lactone within CRL-3342 Cell Line

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Antibiotic-resistant bacteria are a worldwide public health crisis with the potential of mass casualties due to the overuse of antibiotics. This experiment was conducted to investigate what effect, if any, N-Hexanoyl-L-Homoserine Lactone had on the essential cellular functions of a human cell line from the larynx region. Last year the researcher proved that N-Hexanoyl-L-Homoserine Lactone interrupted intraspecific communication in pathogenic bacteria. The researcher hypothesized that N-Hexanoyl-L-homoserine lactone (used in agricultural production) would not affect the essential cellular functions of a human cell line. This experiment was executed by inserting the N-Hexanoyl-L-Homoserine Lactone into a cell line from the larynx, after splitting the original cell line into multiple flasks. The researcher observed that cells that had N-Hexanoyl-L-Homoserine Lactone presented the same as the cells that didn't have the chemical inserted into them. The cells that had the N-Hexanoyl-L-Homoserine Lactone were also still able to carry out essential cellular functions. This was the next essential step in seeing if N-Hexanoyl-L-Homoserine Lactone is a viable treatment for Streptococcus Pyogenes without the use of antibiotics. This, therefore, may provide a solution to the antibiotic-resistance crisis by treating pathogenic bacteria without antibiotics.

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