DETERMINATION OF PROTEIN SIGNATURE OF PSEUDOMONAS PUTIDA KT2440 IN THE PRESENCE OF 4-NITRO-1, 2-PHENYLENEDIAMINE.

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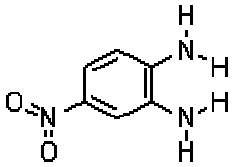
Exploring the protein expression of the versatile *P. putida KT2440* in the presence of several carcinogens is a novel approach in developing a more efficient method of detecting carcinogens/mutagens than the existing Ames Test. *P. putida KT2440* has been grown in the presence of the carcinogen 4-Nitro-1, 2-phenylenediamine on a biologically benign carbon source (succinate) to determine a growth curve. 0.01mM 4-Nitro-1, 2-phenylenediamine was determined to be the optimal concentration of carcinogen for bacterial growth. This growth curve was repeated several times for reproducibility. The bacterial cells were harvested and proteins extracted at the mid-log phase, when bacteria growth is exponential, 380 minutes ± 12 minutes. The extracted proteins have been quantified and protein analysis using 2DE is underway. A proteomic signature is expected to be found – a series of proteins (hopefully 10 or more) that are expressed at high levels for many different carcinogens. From this a novel multiple indicator screen will be developed as an ultimate "danger rating" for carcinogens or mutagens.



4-Nitro-1, 2-phenylenediamine