

PROTEOMIC ANALYSIS OF *PSEUDOMONAS PUTIDA* KT2440 IN THE PRESENCE OF DIETHYLSTILBESTROL

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The RIT Proteomics lab is using a 2D-Gel Electrophoresis analysis of proteins to studying different carcinogens and their effects on the protein expression in the bacteria *Pseudomonas Putida*. The strain being studied is KT2440 and it is grown on a succinic acid carbon source. The current initial screening test required by the government for a potential carcinogen is called the Ames Salmonella Assay. This assay only looks at cell growth and not at protein expression and it sometimes gives false negative and false positive results. Diethylstilbestrol (DES) is a synthetic estrogen that was given to women between 1930s and 1970s and was believed to prevent premature births as well as miscarriages. DES is one of the carcinogens that give a false negative result in the Ames Test. Growth curves for KT2440 have been performed and determined for DES that has been grown up with the succinic acid. The mid-log phase of growth has been determined. Multiple gels are being run and software is being used to look at the various changes in the protein expression as well as initial digestions for mass spectral analysis are being done to determine the identity of the biomarker proteins.