B412 Cadmium Cytotoxicity evaluated in vitro with the Mouse Primary Fibroblast Cells

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The mouse primary fibroblast cell was used to evaluate the cytotoxicity of cadmium chloride($CdCl_2$). As determined with the neutral red(NR) cytotoxicity assay, the 24 hrs midpoint (NR_{50}) toxicity values, in mM were 0.05 for cadmium. The experiment of treated cadmium on the mouse primary fibroblast cell was assayed by sulfohodasmie B(SRB), released LDH, glutathione, lipid peroxidation, total protein and micronucleus test. Damage to the integrity of the plasma membrane was evident, as leakage of lactic acid dehyrogenase occurred during a 4-h exposure to cadmium for 0.05 mM and greater. Intracellular membranes were also affected when cell was treated cadmium for 0.05 mM. The generation of reactive free radicals from cadmium was increased by the following: intracellular content of glutathione, total protein, SRB were lowered in cells exposed to cadmium. Lipid peroxidation by cadmium was inducible. The frequency of micronuclei were increased on cultured mouse fibroblast to treated cadmium.

B413 The Determination of Cell Concentration of Colonial *Microcystis*

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Three treatments to test the efficiency of breaking colonies into single cells were deployed in order to determine the accurate enumeration of the cell concentrations of *Microcystis* bloom materials from the Naktong River. Alkaline hydrolysis in 0.01, 0.1 and 1 M KOH was ineffective at room temperature. Hydrolysis at 80 ℃ using 0.01 M KOH was not complete, but the use of 0.1 M KOH resulted that the colonies broke into single cells completely. The concentration of 1.0 M KOH was strong enough to have cell loss in some occasions. Sonication with Ultrasonic Liquid Processor Sonicator (Heat Systems, Model XL 2015) at 20 kHz, *ca.* 50 W did not completely reduce the colonies into single cells. Heating at 80 ℃ for 30 min followed by vortex mixing for 30 sec showed that the colonies became broken into single cells completely. The efficiency of breaking colonies into single cells was dependent on the initial cell concentrations of the colonies in all three treatments.