products, was studied for its antioxidant bioactivity. In the preliminary study, This antioxidant bioactivity of OE was investigated further using a model of t-butylhydroperoxide(t-BHP)-induced cytotoxicity and genotoxicity in HepG2 human liver cells. Results presented here demonstrate that OE, at concentration of 0.01-1.00 mg/ml, significantly decresed the leakage of lactate dehydrogenase (LDH), and the formation of malondialdehyde (MDA) induced by 30 min treatment of t-BHP (1.5mM) in HepG2 human liver cells. OE also attenuated high level of DNA repaired synthesis. These results lead to speculation that OE presents inhibitory effects against t-BHP caused cytotoxicity and genotoxicity.

E104 Identification of Gastric Cancer Markers from Plasma

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Gastric cancer is the most common cancer in the Korea. It is assumed that unique gastric cancer marker protein can be found from patient's plasma using proteomics technology. The marker protein can be developed for a counter-top diagnosis tools. If the diagnostic tool is available, an early diagnosis of gastric cancer and a rapid diagnosis of gastric cancer recurrence would be possible. The objective of the study is to identify gastric cancer marker proteins from gastric cancer patient's plasma using proteomics technology. In this study, samples from successfully and unsuccessfully chemotherapeutic treated patients' plasmas were analyzed by two-dimensional polyacrylamide gel electrophoresis (2-D PAGE). Results from our own studies have shown a similar pattern of changes in protein expression in different gastric cancer samples. More than twelve proteins showed tumor specific alterations. Twelve different proteins disappeared from the plasma which was obtained from a patient whose chemotherapeutic treatment was successful. But the same spots did not disappear from a patient's plasma of unsuccessfully chemotherapeutic treatment. The proteins were characterized by matrix-assisted laser desorption/ionization-mass spectrometry (MALDI-MS) and electrospray ionization mass spectrometry (ESI-MS). In the future, we are going to validate that the proteins can be used as diagnostic markers using monoclonal antibodies.

E105 Studies on the Calcium Influx Mediated by Glutamate Receptor in Neuronal Cells

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Calcium ion is an important intracellular messenger for the glutamatergic activation in the regulation process of biological rhythm in the mammalian suprachiasmatic nucleus (SCN). Immortalized neuronal cells (SCN2.2) which are derived from the rat SCN are proved to retain its circadian clock properties. The present study was designed to examine whether glutamate induces changes in intracellular calcium in a single cell level using calcium-imaging analysis. L-glutamate (1mM) induced intracellular calcium level: N-Methyl-D-Aspartate (NMDA, 1mM) was effective, while AMPA (1mM) and KA (1mM) failed to do so. We also employed a new calcium-imaging procedure by fluorescence resonance energy transfer (FRET) technique and compared the real-time measurement of calcium changes in a single cell level.