conferenceseries.com

6th International Conference and Exhibition on

Traditional & Alternative Medicine

September 14-16, 2016 Amsterdam, Netherlands

A novel gold biodegradable nanoparticles reduced by Sargassum glaucescens: Preparation, characterization and anticancer activity

Heshu Sulaiman Rahman, Hemn Hassan Othman and Rasedee Bdullah Universiti Putra Malaysia, Malaysia

The current study investigated the anticancer properties of gold nanoparticles (SG-stabilized AuNPs) synthesized using water extracts of the brown seaweed *Sargassum glaucescens* (SG). SG-stabilized AuNPs were characterized by ultraviolet-visible spectroscopy, transmission and scanning electron microscopy, and energy dispersive X-ray fluorescence spectrometry. The SG-stabilized AuNPs were stable and small at 3.65±1.69 nm in size. The *in vitro* anticancer effect of SG-stabilized AuNPs was determined on cervical (HeLa), liver (HepG2), breast (MDA-MB-231) and leukemia (CEM-ss) cell lines using fluorescent microscopy, flow cytometry, and caspase activity determination, and MTT assay. After 72 hours treatment, SG-stabilized AuNPs was shown to be significantly (*P*<0.05) cytotoxic to the cancer cells in dose- and time-dependent manner. The IC₅₀ of SG-stabilized AuNPs on HeLa, HepG2, CEM-ss, MDA-MB-231 cell lines were 4.75±1.23, 7.14±1.45, 10.32±1.5, and 11.82±0.9 µg/mL, respectively. On the other hand, SG-stabilized AuNPs showed no cytotoxic effect towards the normal human mammary epithelial cells (MCF-10A). SG-stabilized AuNPs significantly (*P*<0.05) arrest HeLa cell cycle at G2/M phase and significantly (*P*<0.05) activated caspases-3 and -9 activities. The anticancer effect of SG-stabilized AuNPs is via the intrinsic apoptotic pathway. The study showed that SG-stabilized AuNPs is a good candidate to be developed into a chemotherapeutic compound for the treatment of cancers especially cervical cancer.

Anti-inflammatory studies on Chungpye-tang in asthmatic human lung tissue and IL-1β-induced inflamed human lung epithelial cells

Hyun-Jung Baek Kyung Hee University, Korea

A sthma is a chronic inflammatory lung disease characterized by airway hyper responsiveness (AHR), airway obstruction and airway wall remodeling responsible for significant morbidity and mortality worldwide. There are no the exact causes of asthma, lots of researchers think that genetic and environment factors may result in asthma. Chungpye-tang (CPT) has been used as traditional prescription of asthma in Korea. CPT composed 4 species of herbal medicines was prformed extraction with distilled water for 3h at 100°C. In this study, we investigated the precise mechanism of the anti-inflammatory effect of CPT by western blotting analysis and whether the decoction extracts could reduce pro-inflammatory cytokines such as TNF- α , eotaxin, IL-4, IL-9 and IL-13 in IL-1 β -induced inflamed asthmatic human airway epithelial tissue by multiplex cytokines array. As results of this study, there was a trend toward decreased NF- κ B expression in asthmatic human airway epithelial tissue. IL-9 and IL-13 secretion was significantly reduced in the lung tissue treated with CPT. Overall, our results indicate that CPT has an anti-inflammatory effect through blocking the signaling pathway of NF- κ B, thereby CPT may be a potential remedial agent for allergic ashtma.