[PB4-10] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Immunization with necrotic tumor cell-loaded dendritic cells as an effective vaccine for the treatment of colorectal cancer

Kim Aeyung°, Kim Kwang Dong, Choi Seung-Chul, Son Minsik, Jeong Moon-Jin, Choe Yong-Kyung, Lim Jong-Seok

Cell Biology Laboratory, Korea Research Institute of Bioscience and Biotechnology, Taejon 305-600

Dendritic cells (DC) capturing antigen from tumor cells are able to induce cytotoxic T lymphocytes and antitumor immunity. In this study, we examined whether the uptake of necrotic tumor cells could modulate DC phenotypes and immunization of necrotic tumor cell-loaded DCs could elicit efficient tumor specific immune responses followed by a regress of established tumor burden. 30-40 % of bone marrow-derived DCs efficiently phagocytosed necrotic CT-26 tumor cells and after the uptake, DCs produced dramatically increased levels of IL-12. A decreased expression of CCR1, but not CCR7, on DCs was also observed after the tumor uptake, suggesting DC maturation. Immunization of necrotic tumor cell-loaded DCs induced cytotoxic T lymphocytes and NK activity, and protected mice against subsequent tumor challenge. In addition, intra-tumoral or contra-lateral immunization of these DCs eradicated established tumor in more than 80% of tumor-bearing mice. Finally, we confirmed that in lung metastasis model using B16 tumor cells, therapeutic subcutaneous vaccination of DCs could almost completely block metastasis of i.v. injected-tumor cells to lung. Therefore, our results demonstrate that DCs loaded with necrotic tumor cells could offer a rational strategy to treat tumor and eventually lead to prolonged survival.

Poster Presentations - Field C1. Biochemistry

[PC1-1] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

Alterations of antioxidant effect in response to carboxyethylgermanium sesquioxide (Ge-132) on tumor cell lines

Hue JeongSim°, Kim AnKeun

college of pharmacy, Sookmyung Women's University.

The aim of this study was to examine the alterations of antioxidant effect in Ge-132 on several tumor cell lines (B16-F10, SK-N-MC, Hep-G2). We examined antioxidative effect of Ge-132 by Free Radical Scavenging Activity Test (DPPH) and Glutathione Peroxidase Activity(GPX), Superoxide dismutase (SOD), Catalase Activity (CTA). Ge-132 were used at nontoxic concentration on human normal skin fibroblast cell but it inhibited proliferation on tumor cell lines. As a result, DPPH and GPX, CAT was dose-dependent increased. We suggest GE-132 has antioxidant effect. Also, Antioxidant properties have been shown to be anticarcinogenic.

[PC1-2] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]