production of IFN-γ in macrophages.Taken together, these results suggest TNF-α treatment induces the production of IFN-γ in murine macrophages from tumor environment.

[PB4-5] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Immune effects of pedunculagin on Dentritic cell.

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Dentritic cells are known as the most potent antigen presenting cell(APC). Currently, many studies on an activation of dedritic cells are actively ongoing because dentritic cells are known to be well against the infected cells by cancers or viruses. In line with this, the study was focused on the activation of dentritic cells by using pedunculagin, which is hydrolyttic ellagitannin. In vitro, the total RNAs were extracted from murine dentritic cell at 4, 8, 12, 24hr after the application of 1, 10, 100㎍/㎖ of pedunculagin with no other stimulators. However, it is considered there has been no great deal in expressing IL-mRNA, telling that pedunculagins are not that much related to the expression of IL-10mRNA. This result shows that pedunculagin dose not generate the action of suppression against INF or macrophage by IL-10 in dendritic cell of mouse.

[PB4-6] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

The role of TNF-a in tissue-dependent production of IFN-r by LPS from macrophages.

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Macrophages have an crucial roles in tumor angiogenesis by producing
cytokines and growth factors. Lipopolysaccharides(LPS) is known to stimulate the macrophages to produce an angiogenic cytokines like TNF-a or IFN-r, an anti-angiogenic factor. In this study, we examined the differential effect of LPS on residential macrophages from the spleen and peritoneal cavity to produce the angiogenesis-related cytokines. LPS (100ng/ml) activated the residential splenic macrophages to produce IFN-r (1968 pg/ml, 484% of control) and TNF-a (429 pg/ml, 339% of control). On the other hand, peritoneal macrophages did not respond to LPS to produce cytokines (under detection limit by ELISA). To mimic the macrophages in tumor environment, Mac 1+ cells were purified by magnetic beads from the peritoneal cavity of C57BL/6 mice injected with syngeneic B16F10 melanoma cells for 11 days. Cells from the tumor environment were activated by LPS to produce IFN-r (26 pg/ml). Anti-TNF-a antibody increased the IFN-r production (46 pg/ml, 178% of LPS alone). Data suggested that LPS may modulate the macrophages to produce angiogenesis-related cytokines in tissue-dependent manner. And the production of IFN-r and TNF-a from the macrophages in tumor environment may imply the control of angiogenic switch.
This study was supported by Korea Science and Engineering foundation,2000.

[PB4-7] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Immune activating effects of pedunculagin

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We classify the immunotherapy as a part of major anticancer therapies. As one of the immunotherapy, dendritic cell, the most powerful antigen presenting cells(APCs) has been recognised to be the best gateway in immunotherapy. In this study, we assured that there is an activation of murine dendritic cell through the expression of IL-6 by using pedunculagin, a tannin being extracted from plant in order to use it for anti-tumor or anti-virus agents by activating dentritic cell. In vitro, we extracted the total RNA at 4, 8, 12, 24hrs after the administration of 1, 10, 100㎍/㎖ of pedunculagin to dendritic cell of mouse. Additionally, IL-6 mRNA was analyzed by RT-PCR method. As a result, IL-6 mRNA increased in dose-dependant. This suggests that pedunculagin make proinflammatory cytokine increased and make T-cel and B-cell grown and proliferated in good manner.

[PB4-8] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Effects of ellagitannin on IL-12 expression.

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Tannins have been reported that they have a potential effect for anticancer, antivirus, and antiHIV. Particularly, ellagitannins, which are hydrolytic tannin, are the most popular tannins, which are mostly separated in study level. In this study, we studied to know on the expressive effect of Dentritic cells, which are the most effective antigen presenting cells(APC) using pedunculagin(hydrolyttic ellagitannin) by way of the expression of IL-12. IL-12 activates NK cell and macrophage, and shows the antiviral effect by excreting INF-γ. In vitro, the total RNAs were extracted from the murine dentritic cell at 4, 8, 12, 24hr after the application of 1, 10, 100㎍/㎖ of pedunculagin without other stimulators. And we analysed IL-12 mRNA using RT-PCR method. In conclusion, IL-12 mRNA was increased in dose-dependent. These results suggest that pedunculagin activate TH1 cell induction, CTL differentiation as well as accelerating the increase of NK, LAK cell.

[PB4-9] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Effects of Pedunculagin on the IL-1β expression of dendritic cell

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Ellagitannins have been reported to enhance immune system. In this study, the effects of pedunculagin on dendritic cell were examined. Pedunculagin, an ellagitannin from Alnus hirsuta var. microphylla, Betulaceae, is a novel immunomodulator. This study was focused on the cytokines, which could be expressed by dendritic cells. Dendritic cells are known as the most potent antigen presenting cell, cause, dendritic cells could present the antigen to CTLs strongly other than any other APCs, such as macrophages, B cells, and Langerhans cells. To determine the effect of pedunculagin on murine dendritic cell-expressing interleukin-1β in vitro, total RNAs have been extracted from murine dendritic cell at 4, 8, 12, 24hr after the applications of 1, 10, 100ug/ml of pedunculagin without other stimulators RT-PCR methods were used to analyze IL-1β mRNAs.
As a result, IL-1β mRNA expressions were significantly increased in dose-depende
nt. In conclusion, the pedunculagin enhanced IL-1β mRNA expressions. Moreover, th
ese results suggest that pedunculagin enhance the proinflammatory cytokines
and activate the lymphocytes for murine dendritic cells.