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Calcineurin inhibitors, cyclosporine A (CsA) and tacrolimus (FK506), have been studied extensively regarding their effects on T lymphocytes, but their effects on dendritic cells (DC) are relatively unknown. DC can really capture Ag from dead and dying cells for presentation to MHC class I-restricted CTL. The main targets for the immunosuppressive calcinerin inhibitors, FK506 and CsA, have been considered to be activated T cells, but not antigen presenting cells (APCs). Here we demonstrate that CsA and FK506 inhibit cross-presentation of exogenous antigen by DCs. Particulate form of OVA was efficiently captured, processed and presented on class I MHC molecules (cross-presentation) as well as on class II MHC. Addition of FK506 and CsA to the cultures of DCs inhibited both class I MHC estricted presentation and class II MHC estricted presentation of exogenous OVA. In this study, we wished to determine whether presentation of exogenous OVA (10 μg/ml) could be enhanced by one of the potential natural products, Water Extract of Korean Propolis (WEP) (1.2 μg/ml), which have been used for the regulator of immune response as a traditional medicine remedy and had been shown that inhibition of the production, cytokine production, enhancement of surface molecule expression, and cell morphologic antigen expression on LPS-activated RAW 264.7 cells in previous screening study. WEP could also activate macrophages by producing cytokines. The production of the macrophage cytokines, IL-1 and TNF-α by RAW 264.7 treated with WEP was examined from 2.5 μg/ml up to 25 μg/ml with dose dependent manner.

[PB4-5] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]

Linarin enhances both the presentation of exogenous particulate antigen in association of Class I Major Histocompatibility antigen and macrophage activation

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Calcineurin inhibitors, cyclosporine A (CsA)and tacrolimus (FK506), have been studied extensively regarding their effects on T lymphocytes, but their effects on dendritic cells (DC) are relatively unknown. DC can really capture Ag from dead and dying cells for presentation to MHC class I-restricted CTL. The main targets for the immunosuppressive calcinerin inhibitors, FK506 and CsA, have been considered to be activated T cells, but not antigen presenting cells (APCs). Here we demonstrate that CsA and FK506 inhibit cross-presentation of exogenous antigen by DCs. Particulate form of OVA was efficiently captured, processed and presented on class I MHC molecules (cross-presentation) as well as on class II MHC. Addition of FK506 and CsA to cultures of DCs inhibited both class I MHC estricted presentation and class II MHC estricted presentation of exogenous OVA. In this study, we wished to determine whether presentation of exogenous OVA (10 μg/ml) could be enhanced by one of the potential natural products, linarin (0.6 ~ 10 μg/ml), which have been used for the regulator of immune response as a traditional medicine remedy and had been shown that inhibition of the production, cytokine production, enhancement of surface molecule expression, and cell morphologic antigen expression on LPS-activated RAW 264.7 cells in previous screening study. The production of TNF-α by macrophages treated with linarin was appeared in a dose dependent manner. The production of IL-1, however, was not the case by this natural product. The present study demonstrates the ability of linarin to activate macrophages directly or indirectly and affecting both cytokine production and nitric oxide inhibition, as well as the expression of some surface molecules.

[PB4-6] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]