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Phylligenin Extracted from Forsythia Suspensa Inhibit IL2 Production and NLRP3 Activation in Endotoxin Challenged Immune Cells

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Abstract—*Forsythia suspensa Vahl (Oleaceae) is a large shrub widely distributed in China, Korea and Japan. It is also grown in some parts of eastern India. Forsythia suspensa extracts have been used as traditional medicine for treatment of fever, headache, breast cancer, swine flu, tonsillitis, tuberculosis, avian flu, sore throat and headache. Forsythia suspensa extract has been reported to exhibit various biological activities like antioxidant, antiviral and anti-inflammatory. Lignan alcohol glycoside, volatile oil and triterpenoids are the major components identified in forsythia suspensa extracts. Moreover epoxylignanas like forsythialan, phylligenin (forsythin) and 8-hydroxypinoresinol have been also isolated. Phylligenin is an important ingredient isolated from fruits and leaves of Forsythia suspensa (Vahl). We investigated the effect of Phylligenin on Concanavalin A (5μg/mL) induced T cell proliferation and Lipopolysacharide induced NLRP3 activation in J774.1 cells. Phylligenin (50-200μM) inhibited the Concanavalin induced T cell proliferation and IL2 production in a concentration dependent manner. Also Phylligenin inhibited the Concanavalin A induced IL12 and IFNɣ in blood of Balbc mice. Furthermore Phylligenin inhibited the activation of NLRP3 in Lipopolysacharide challenge J774.1 cells with maximum effect at 200 μM. Stastical analyses were done by using Graphpad prism software and by using one way ANOVA. P value less than 0.05 were considered.*

Keywords*: Phylligenin, Concanavalin,Cell proliferation, IL12, IFNɣ,NLRP3,Balbc.*

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