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IN VITRO CHARACTERISATION OF IMMUNOSUPPRESSIVE ACTIVITY OF TRIPTOLIDE.

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Tripterygium wilfordii Hook F (TWH), has been used for treatment of arthritis and other inflammatory diseases for hundreds of years in rural areas of South China. Recently a number of extractions from TWH has been shown to suppress immune responses, nevertheless, conflicting effects have also been reported. The present study was to elucidate the mechanism of action of Triptolide; one of the main active components in TWH, on *in vitro* immune response of human mononuclear cells (PBMC). PBMC were incubated with an optimal dose of stimuli such as phytohemagglutinin (PHA), interleukin-2 (IL-2) or a combination of phorbol 12-myristate acetate and ionomycin in the presence or absence of triptolides to assess its effect on lymphocyte proliferation. The effect of triptolide on *in vitro* immunoglobulin (Ig) production by pokeweed mitogen (PWM) or *Staphylococcus aureus* Cowan I strain (SAC) stimulated PBMC was also examined. Cell viability in the cultures with triptolide was determined by trypan blue exclusion test. **RESULTS**: Triptolide caused a dose dependent inhibition of lymphocyte (from both healthy and rheumatoid arthritis subjects) proliferation in response to the various stimuli over the concentration range 1 - 10 nM ($p<0.001$). Cell viability was only affected by triptolide at the highest concentrations used (10nM). Triptolide did not have a significant effect on human Ig (both IgG and IgM classes) production in response to both PWM and SAC. In **summary**, this study has shown that triptolide exerts a powerful suppressive effect specifically on human T cells. Triptolide may be responsible for the therapeutic effects of crude aqueous TWH preparations in rheumatoid arthritis.