

Immunomodulatory Potential of PHYTOCEE®

OBJECTIVE

To evaluate the immunomodulatory properties of PHYTOCEE® in natural killer (NK) cell activity assay.

MATERIALS AND METHODS

Sample solution of water and methanol extracts of PHYTOCEE® (100 mg/mL) was prepared by dissolving in dimethyl sulfoxide (DMSO) solution. Final working concentrations viz. 3.125, 6.25, 12.5, 25, 50, 100 and 200 µg/mL were prepared by dilution in Roswell Park Memorial Institute (RPMI) 1640 plain medium. NK cell activity was determined by using dye based calcein-AM cell viability assay. DMSO solution and lipopolysaccharides (LPS) at 1 µg/mL were used as solvent control and positive control respectively. The cell line YAC-1 (Mus musculus lymphoma) cells were used as target cells and the NK cells (crude population) were used as effector cells. The percentage of NK cell activity was calculated as follows;

$$\% \text{ NK cell activity} = \left[\frac{1 - \left(\frac{\text{RFU (effector + target)}}{\text{RFU (effector)}} \right)}{\text{RFU (target)}} \right] \times 100$$

RESULTS

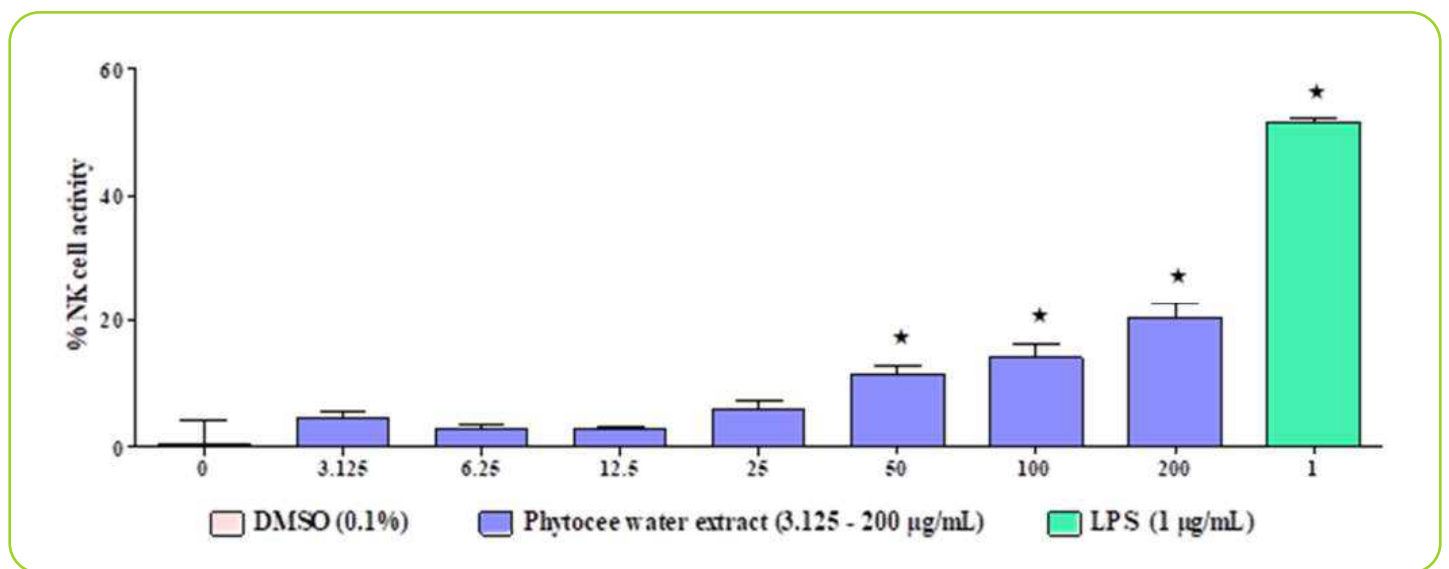


Figure 1: Effect of PHYTOCEE® (water extract) on NK cell activity

LPS, Lipopolysaccharides; *p<0.05

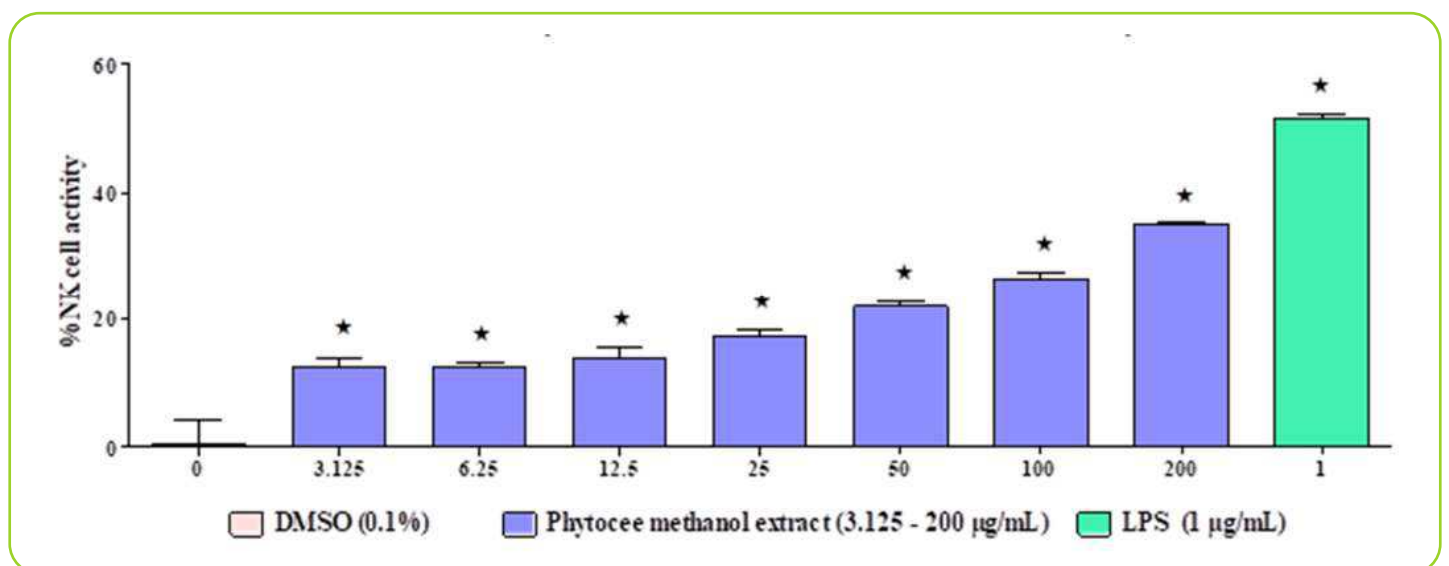


Figure 2. Effect of PHYTOCEE® (methanol extract) on NK cell activity

LPS, Lipopolysaccharides; *p<0.05

CONCLUSIONS

The water and methanol extracts of PHYTOCEE® exhibited maximum NK cell activity at concentration of 200 µg/ml.

OUTCOME

Hence, PHYTOCEE® was proven to possess immunomodulatory potential.