ABSTRACT

Background. Pomegranate (Punica granatum) is reported to have a broad range of therapeutics effects including antibacterial and antioxidants, but there is no experiment before that shows the toxicity in its whole extract, especially on fibroblast cell. Purpose. The aim of this study was to identify the effect of pomegranate (Punica granatum) and the effect of its toxicity on fibroblast cell.

Method. The sample was fibroblast cells culture BHK-21 (Baby Hamster Kidney-21). The pomegranate extract divide into 10 concentration, 100%, 50%, 25%, 12.5%, 6.25%, 3.13%, 1.56%, 0.78%, 0.39%, 0.20%. These extract applied into fibroblast cells culture and incubated in 24 hours. After incubated, ELISA reader used to read the result of this experiment. The data were compared and examined with one-way ANOVA with HSD Tukey.

Result. The study showed that pomegranate extract is non toxic in fibroblast cell. From the study also showed that increasing of fibroblast proliferation happened when pomegranate extract applied to the culture therefore its safe to be use for medicine.

Conclusion. Pomegranate extract experienced higher concentration will increase in proliferation of fibroblast cell with various concentration and no toxic to fibroblast cell BHK-21.

Keywords: pomegranate (Punica granatum), fibroblast cell, toxicity