ABSTRACT

Background. *Piper crocatum* is one of potential herbal plant which is well known as medicaments. The leaf of *piper crocatum* have antiinflamatory and wound healing effect. It has good biocompatibility and is not toxic, and it is expected to replace the use of irrigation such as 0,2% chlorhexidine gluconat as material in dentistry. **Purpose.** The aim of this study is to determine the biocompatibility of *Piper crocatum* with different concentration against 0,2% chlorhexidine gluconat toward BHK-21 fibroblast cells. **Method.** This research is laboratory experimental with the post-test control group design. *Piper crocatum* was extracted using ethanol and then was diluted with Eagles media into concentration 100%, 50%, 25%, 12,5%, and 6,25%. Biocompatibility was observed after 24 hours using MTT assay technique, observed by ELISA reader. **Result.** The result showed that the percentage of proliferation cell of *Piper crocatum* leaf extract with concentration 100%, 50%, 25%, 12,5%, and 6,25% were 58.15%, 24%, 11.60%, 12.02%, 8.90%, and the result of 0,2% chlorhexidine gluconat was 5.24%. **Conclusion.** *Piper crocatum* in some concentration are more biocompatible than 0,2% chlorhexidine gluconat toward BHK-21 fibroblast cell.

**Keyword:** *Piper crocatum*, Chlorhexidine gluconat, Biocompatibility, BHK-21 fibroblast cell, MTT assay.