Effects of Centella asiatica L., Curcuma longa L., and Strobilanthes crispus L. extracts on 3 kidney cell lines: in vitro cytotoxicity analysis

ABSTRACT

Objective: This study was carried out to evaluate the in vitro cytotoxicity to three cell kidney lines by using the 3-(4, 5-dimethylthiazol-2-yl)-2, 5- diphenyltetrazolium bromide (MTT) reduction assay of three popular medicinal plants used in Malaysia. Methods: Methanol and aqueous extracts of Centella asiatica L., Strobilanthes crispus L. and Curcuma longa L. were tested at the non-toxic limit concentration at 50 (NTLC50) ranging from 50 µg/ml and 200 µg/ml depending on the cell lines used, i.e. African Green Monkey Kidney (Vero), Baby hamster Kidney (BHK) and Rabbit Kidney (RK) cells. Results: Centella asiatica L. was the least toxic to all cell lines tested followed by Strobilanthes crispus L. and Curcuma longa L. Methanol plant extracts inhibited cell growth but not to the aqueous plant extracts. Meanwhile, BHK cells were found to be the most resistant to the plant extracts. Conclusion: This study proves the safety of these plant extracts for future scientific studies in its biomedical properties.

Keyword: Centella asiatica L.; Curcuma longa L.; Strobilanthes crispus L.; Cytotoxicity