Abstract

Atopic dermatitis is a multifactorial chronic skin inflammatory disease characterized by acute flare-ups and exacerbations, chronic eczematous skin lesions on dry skin, as well as intensive pruritus. It affects 10-30% of children and 2-10% of adult worldwide with an early onset. Currently, there has been no treatment that can address this disease completely. This research is aimed to investigate the potential of *Calophyllum inophyllum* ethanol, methanol, and hexane fraction on its antioxidant potential as recently oxidative stress has been implicated on the pathogenesis of atopic dermatitis. Its protective effect was investigated by doing the 3-(4 5-dimethylthiazole-y)-2, 5-diphenyltetrazolium bromide (MTT) assay on hydrogen peroxide induced human keratinocytes (HaCaT) cells. DPPH (2,2-diphenyl-1-picryl-hydrazyl-hydrate) chemical assay was also done on the samples to investigate its free radical scavenging potentials. Results shown that hexane fraction has the highest protective ability based on MTT assay while ethanol fraction has the highest total equivalent antioxidant capacity to ascorbic acid. This indicates that *C. inophyllum* has antioxidant potential that can be utilized in atopic dermatitis cases, however, further studies need to be conducted to identify the responsible compounds and to understand the underlying antioxidant mechanism.