

## Antimicrobial Activity of *Cassia alata* Linn. Leaves (Caesalpinioideae)

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### ABSTRACT

35% ethanolic extract from *Cassia alata* Linn. leaves showed antifungal activity against *Trigrophyton mentagrophyte*, *Trigrophyton rubum* and *Microsporum gypsum*. The activity was determined by agar diffusion method. Further purification of 35% ethanolic extract was done by dissolving in methanol and the undissolved methanolic material could dissolve in water. This methanolic extract showed antifungal activity against *T.mentagrophyte* while aqueous extract showed no activity. Isolation and purification of methanolic extract by column chromatography and preparative layer chromatography showed no principal component but consisted of many minor components. These minor components showed antifungal activity against *T.mentagrophyte*. Minimum inhibitory concentration (MIC) of methanolic extract against *T.mentagrophyte* as determined by agar dilution method was found to be 15 mg/ml. It was also found that 35% ethanolic extract showed less activity against *Staphylococcus aureus* ATCC 25923 at 10% W/V concentration.

The result from this investigation suggest that ethanolic extract from *Cassia alata* Linn. leaves can be used for the treatment of ringworm and it is desirable to introduce people to use this plant as in the traditional use.

**Key words:** *Cassia alata* Linn. Leaves, Antimicrobial activity

### INTRODUCTION

*Cassia alata* Linn. is a shrub in family caesalpinioideae. Its traditional use of the leaves is for the treatment of ringworm, diuretics and laxative. The tree is also used as an anthelmintic for earthworm (Pongbunrod, 1984). Active constituents of this plant are anthraquinones and flavonoids (Ultasit et al., 1987).

Palanochamy and Nagarajan (1990) found that 85% ethanolic extract of *C.alata* could treat dermatophyte such as *T.mentagrophyte*, *T.rubum* and *M.gypsum* at 20% W/V concentration. Crockette et al., (1992) found that water extract of *C.alata* could inhibit the growth of *Escherichia coli* and *Candida albicans*. MIC and minimum bactericidal concentration (MBC) against *E.coli* were 1.6 mg/ml and 60 mg/ml., respectively. MIC and minimum fungicidal concentration (MFC) against *C.albicans* were 0.39 mg/ml and 60 mg/ml., respectively. The objective