

Antifungal compound isolated from *Catharanthus roseus* L. (pink) for biological control of root rot rubber diseases

ABSTRACT

Rigidoporus microporus, *Ganoderma philippii*, and *Phellinus noxius* are root rot rubber diseases and these fungi should be kept under control with environmentally safe compounds from the plant sources. Thus, an antifungal compound isolated from *Catharanthus roseus* was screened for its effectiveness in controlling the growth of these fungi. The antifungal compound isolated from *C. roseus* extract was determined through thin layer chromatography (TLC) and nuclear magnetic resonance (NMR) analysis. Each *C. roseus* of the DCM extracts was marked as CRD1, CRD2, CRD3, CRD4, CRD5, CRD6, and CRD7, respectively. TLC results showed that all of the *C. roseus* extracts peaked with red colour at $R_f = 0.61$ at 366 nm wavelength, except for CRD7. The CRD4 extract was found to be the most effective against *R. microporus* and *G. philippii* with inhibition zones of 3.5 and 1.9 mm, respectively, compared to that of other extracts. These extracts, however, were not effective against *P. noxius*. The CRD4 extract contained ursolic acid that was detected by NMR analysis and the compound could be developed as a biocontrol agent for controlling *R. microporus* and *G. philippii*. Moreover, little or no research has been done to study the effectiveness of *C. roseus* in controlling these fungi.