

عنوان مقاله:

Mitotic Block of Human Blood Cells by Vinca herbacea, Catharanthus roseus and Colchicine Alkaloids

محل انتشار:

مجله گیاهان دارویی و محصولات فرعی، دوره 7، شماره 1 (سال: 1397)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Babak Delnavaz Hashemloian - *Department of plant Cell Biology, Saveh branch, Islamic Azad University, Saveh, Iran*

Azra Ataei Azimi - *Department of plant Cell Biology, Saveh branch, Islamic Azad University, Saveh, Iran*

خلاصه مقاله:

Catharanthus roseus (L.) G.Don is a plant which produces anticancer and anti-mitotic indole alkaloids. Colchicine is an anti-mitotic drug. Anti-mitotic effects of Vinca herbacea Waldst. & Kit. indole alkaloids is unknown. The study were evaluated the antimitotic effect of alkaloids of V. herbacea, Catharanthus roseus and colchicine on mitosis and microtubule arrangement of human blood cells. In this research, alkaloids were extracted from V. herbacea (herba) and C. roseus (rose). In vitro anti-mitotic and microtubule shortening effects of different concentration of these alkaloids and colchicine were studied on peripheral blood cells. Three alkaloids include herba alkaloid (V. herbacea alkaloid) and rose alkaloid (C. roseus alkaloid) and colchicine, especially herba alkaloid with increasing concentrations (۰, ۵, ۱۰ and ۲۰ $\mu\text{g.ml}^{-1}$) that induced mitotic block at the metaphase to anaphase transition. Mitotically blocked cells were exhibited aberrant spindles by microtubule dynamics suppression. All three alkaloids strongly suppresses the rate and extent of microtubule shortening in vitro. Our results showed V. herbacea are a novel source of anti-mitotic and anticancer compounds, probably better of C. roseus.

کلمات کلیدی:

Antimitotic, Spindle, Microtubule, Anticancer

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1834296>

