

Antiproliferative Effects of Aqueous Propolis Extract on P3HR1 Lymphoblastoid Cell Line Growth

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SUMMARY. Propolis, often known as bee glue, is a complex resinous substance with antibacterial and anti-cancer activities. Its biological capabilities are linked to a combination of flavonoids. In this work, a human Burkitt lymphoma cell line (P3HR1) was used to assess the *in vitro* modulatory effect of aqueous extracts of propolis, collected over several periods. P3HR1 cells were treated for 72 h at concentrations around the IC₅₀ of two samples of propolis; 5, 15, 20, and 30 µg/mL for the first sample and 0.06, 0.30, 0.6, and 1.5 µg/mL for the second sample, in order to examine the kinetics of cell growth and the antiproliferative impact. In order to assess the induction of apoptosis, the cell line was also subjected to a rapid and simple agarose electrophoresis and acridine orange labeling. Propolis aqueous extracts may have an anti-oncogenic effect by preventing the development of B cells infected with EBV.

RESUMEN. El propóleo, también conocido como cola de abeja, es una sustancia resinosa compleja con actividades antibacterianas y anticancerígenas. Sus capacidades biológicas están vinculadas a una combinación de flavonoides. En este trabajo, se utilizó una línea celular de linfoma de Burkitt humano (P3HR1) para evaluar el efecto modulador *in vitro* de extractos acuosos de propóleo, recolectados durante varios períodos. Las células P3HR1 se trataron durante 72 horas a concentraciones cercanas a la CI50 de dos muestras de propóleo; 5, 15, 20 y 30 µg/mL para la primera muestra y 0.06, 0.30, 0.6 y 1.5 µg/mL para la segunda muestra, con el fin de examinar la cinética del crecimiento celular y el impacto antiproliferativo. Con el fin de evaluar la inducción de la apoptosis, la línea celular también se sometió a una electroforesis en agarosa rápida y simple y a un marcaje con naranja de acridina. Los extractos acuosos de propóleo pueden tener un efecto antioncogénico al prevenir el desarrollo de células B infectadas con VEB.

KEYWORDS: antiproliferative, apoptosis, aqueous extract, Epstein-Barr virus (EBV), human Burkitt lymphoma cell line (P3HR1), propolis.

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