

Propolis Water Extract Has Anti-Influenza Effect



Caffeoylquinic Acids are Major Constituents with Potent Anti-Influenza Effects in Brazilian Green Propolis Water Extract

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Influenza A viral infections reached pandemic levels in 1918, 1957, 1968, and, most recently, in 2009 with the emergence of the swine-origin H1N1 influenza virus. The development of novel therapeutics or prophylactics for influenza virus infection is urgently needed.

We examined the evaluation of the anti-influenza virus (A/WSN/33 (H1N1)) activity of Brazilian green propolis water extract (PWE) and its constituents by cell viability and real-time PCR assays.

Our findings showed strong evidence that PWE has an anti-influenza effect and demonstrate that caffeoylquinic acids are the active anti-influenza components of PWE. Furthermore, we have found that the amount of viral RNA per cell remained unchanged even in the presence of PWE, suggesting that PWE has no direct impact on the influenza virus but may have a cytoprotective activity by affecting internal cellular process.

These findings indicate that caffeoylquinic acids are the active anti-influenza components of PWE.

Above findings might facilitate the prophylactic application of natural products and the realization of novel anti-influenza drugs based on caffeoylquinic acids, as well as further the understanding of cytoprotective intracellular mechanisms in influenza virus-infected cells.

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