Phytother Res. 2011 Jul;25(7):975-82. doi: 10.1002/ptr.3368.

In vitro anti-herpes simplex virus activity of 1,2,4,6-tetra-O-galloyl-β-D-glucose from Phyllanthus emblica L. (Euphorbiaceae)

Yangfei Xiang [1], Ying Pei, Chang Qu, Zhicai Lai, Zhe Ren, Ke Yang, Sheng Xiong, Yingjun Zhang, Chongren Yang, Dong Wang, Qing Liu, Kaio Kitazato, Yifei Wang

Affiliations

PMID: 21213355 DOI: 10.1002/ptr.3368

Abstract

In this study, 1,2,4,6-tetra-O-galloyl-β-D-glucose (1246TGG), a polyphenolic compound isolated from traditional Chinese medicine Phyllanthus emblica L. (Euphorbiaceae), was found to inhibit herpes simplex virus type 1 (HSV-1) and type 2 (HSV-2) infection at different magnitudes of activity in vitro. Further studies revealed that 1246TGG directly inactivated HSV-1 particles, leading to the failure of early infection, including viral attachment and penetration. 1246TGG alsc suppressed the intracellular growth of HSV-1 within a long period post-infection (from 0 h p.i. to h p.i.), while it might exert an antiviral effect mainly before 3 h p.i. It inhibited HSV-1 E and L gen expressions as well as viral DNA replication but did not affect the RNA synthesis of IE gene in ou study. Also, in the presence of 1246TGG, the synthesis of viral protein was reduced. Taken together, it was suggested that 1246TGG might exert anti-HSV activity both by inactivating extracellular viral particles and by inhibiting viral biosynthesis in host cells. These results warrant further studies on the antiviral mechanisms of 1246TGG and suggest that it might be a candidat for HSV therapy.

Related information

MedGen
PubChem Compound
PubChem Compound (MeSH Keyword)
PubChem Substance

LinkOut - more resources

Full Text Sources

Ovid Technologies, Inc.
Wiley

Other Literature Sources

The Lens - Patent Citations