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진흙버섯의 항인플루엔자 활성 및 활성성분 규명

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Influenza viruses are RNA viruses that belong to the Orthomyxoviridae family, and those can be divided into three types; A, B, and C, which based on the differences of the inner nucleoproteins and genomic structures. All three genera differ in their genomic structure and nucleoprotein content, they are further classified into various serotypes based on the two surface glycoproteins, hemagglutinin (HA) and neuraminidase (NA). These glycoproteins play crucial roles in viral infection and replication. Hemagglutinin mediates binding of virions to sialic acid receptors on the surfaces of target cells at the initial stage of infection. Neuraminidase cleaves the glycosidic bonds of sialic acids from the viral and cell surfaces to release the mature virions from infected cells, after viral replication. Because NA plays an important role in the viral life cycle, it is considered an attractive therapeutic target for the treatment of influenza. The methanolic extracts of *Phellinus baumii* and *Phellinus igniarius* exhibited significant activity in the neuraminidase inhibition assay. Polyphenolic compounds were isolated from the methanolic extracts. The structures of these compounds were determined to be hispidin , hypholomine B, inoscavin A, davallialactone, phelligridin D, phelligridin E, and phelligridin G by spectroscopic methods. Compounds inhibited the H1N1 neuraminidase activity in a dose-dependent manner with IC_{50} values of 50.9, 22.9, 20.0, 14.2, 8.8, 8.1 and 8.0 μM, respectively. Moreover, these compounds showed anti-influenza activity in the viral cytopathic effect (CPE) reduction assay using MDCK cells. These results suggests that the polyphenols from *P. baumii* and *P. igniarius* are promising candidates for prevention and therapeutic strategies against viral infection.