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Conference Abstract

Antiviral activity of Stachys Thracica Dav. extracts against Human Herpes virus type 1 and 2

Petya Angelova[‡], Venelin Tsvetkov[‡], Anton Hinkov[‡], Daniel Todorov[‡], Kalina Shishkova[‡], Zhenya Yordanova[‡,§], Veneta Kapchina-Toteva[§], Stoyan Shishkov[§,‡]

‡ Sofia University "St. Kl. Ohridski", Faculty of Biology, Laboratory of Virology, Sofia, Bulgaria
§ Sofia University "St. Kl. Ohridski", Faculty of Biology, Department of Plant Physiology, Sofia, Bulgaria

Corresponding author: Petya Angelova (pets_87@abv.bg), Venelin Tsvetkov (ven_tsvetkov@abv.bg)

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Abstract

Objective: *Human Herpes Virus* (*HHV*) type 1 and 2 are cause of hidden pandemics in global scale, as well as sever clinical symptoms associated with active replication in the human host. As until now there are 11 license anti-herpes drugs. Most of them are based on acyclovir and his derivative. Their frequent usage leads to the selection of drug resistance strains and patients offen experience unwanted side effects. Natural products (for ins. plant extracts) are tolerated better by living organisms and their complex composition prevent appearance of resistant virions. The aim of our work is to study the effect of *Stachys Thracica* Dav extracts against *Human Herpes Virus* type 1, strain F and *Human Herpes Virus* type 2, strain BA.

Materials and methods: The extracts are obtained from *in vivo*, *in vitro* and *ex vitro* cultivated plants, using methanol extraction. All tests are done in *in vitro* experimental settings. We use MDBK cell line, and also laboratory strain F of *HHV* – 1. The following methods were applied: MTT assay to determine cell survival, direct contact assay to test virucidal activity and modified MTT assay to determine effect against virus replication in cell culture.

Results: Obtained data shows that two of the extracts – those from *in vitro* and *ex vitro* cultivated plants are with close MNC (maximal nontoxic concentration) (2mg/ml), and the third one is more toxic (MNC is 1mg/ml). The tested extracts do not influence the replication of HHV – 1 and HHV-2. The results about virucidal activity show that the extracts strongly inhibited extracellular virions of *HHV*-1, strain F (extracts from *in vitro* cultivated plants reach ~ 100% at 240 minutes of the contact), but the effect of the extracts on extracellular virons of *HHV*-2, strain BA is more slight.

Conclusions: Tested extracts do not have effect against virus replication in cell culture but show strong virucidal activity against *HHV*-1 and slight activity against *HHV*-2.

Keywords

HHV ; *Stachys thracica* Dav.; antiviral activity, MTT assay

Presenting author

Petya Angelova

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