





dilution and time of addition experiments. Activity was also tested using primary cells. RSV was passaged in presence of these compounds and resulting virus populations will be analyzed by next generation sequencing. 15 compounds were found to reduce viral GFP signal when present during infection, whereas 11 additional compounds reduced infectivity of supernatants from treated cells. IC₅₀ values ranged from 0.9 μ M to 7.8 μ M for 15 of these compounds. After cytotoxicity, pseudoparticle and replicon testing, four entry, one replication and two presumably assembly or release inhibitors were chosen for follow up. A limiting dilution assay revealed no binding of any compound to RSV virions. The entry inhibitors were active against Synagis but not BMS 433771 resistant pseudoparticles, suggesting a similar mode of action. Passaging of the virus in presence of the compounds led to different resistance phenotypes, which are currently being sequenced to reveal adaptive mutations. Finally, antiviral activity was confirmed in physiological relevant air-liquid interface cultures of primary human airway epithelial cells. Thus, these molecules are promising candidates to learn more about potential drug targets and new RSV treatment options.

PW1 - Poster walk 1

Poster presentation

PE79

In vitro studies of cytotoxic, anti-influenza and anti-herpes virus activities of leaves extract of plant *Graptopetalum paraguayense* E. Walther

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Among infectious, viral diseases in particular, remain the leading cause of death in humans globally. However, widespread use of the available antiviral drugs often leads to the problem of viral resistance. Development of new antiviral products with different mechanism of action are very much required. In this aspect, herbal extracts or some plant derived ingredients serve as a rich source of medicinal substances, which can be used for a treatment of viral infections.

The aim of our study was to evaluate *in vitro*, the cytotoxic, anti-herpes and anti-influenza virus activities of a lyophilized leaves extract derived from plant *Graptopetalum paraguayense*.

To study the components of a lyophilized leaves extract the GC-MS analyzes were performed. To determine the capacity of the extract to inhibit the lytic activity of Herpes simplex virus type 1 (HSV-1) and type 2 (HSV-2) and inhibitory effect on influenza A (H1N1) infection were used micro-inhibition assays along with cytotoxicity screening (colorimetric MTT, virus titration and hemagglutination inhibition tests) were performed on Vero and MDCK cells. Inhibitory concentration 50% (IC₅₀), maximal nontoxic concentration (MNC) and cytotoxic concentration 50% (CC₅₀) of the tested extract were identified.

The tested herbal extract has minimal cytotoxicity on cell lines. Effectively inhibited HSV replication in dose-dependent manner. The extract and its polyphenolic fraction were more effective of HSV-1 replication (97%), whereas inhibition to HSV-2 was significantly lower (43%). To assess the anti-influenza activity, two assays were employed, simultaneous and posttreatment test. The phenolic acid fraction C showed 93% reduction in both assays at concentration of 5 mg/ml and 10 mg/ml, in contrast lipids and carbohydrates fractions possess only 23% reduction in hemagglutination.

We conclude that the extract from the succulent plant *Graptopetalum paraguayense* E. Walther may be a promising new molecules with antiviral functions.

PW1 - Poster walk 1

Poster presentation

PE80

Computational Approaches to Identify NS3-NS5 Interaction Inhibitors of Dengue Virus

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