
Poster

Natural origin products as a source of new antiviral molecules



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ABSTRACT

Motivation: Human adenovirus (HAdV) is a DNA virus that can cause a wide range of diseases, including respiratory and gastrointestinal infections, or conjunctivitis, that in immunocompetent individuals are usually mild and self-limited. However, in immunosuppressed people and especially in pediatric units, HAdV infections present high morbidity and mortality. Currently there is no specific treatment approved against HAdV. The aim of this work was to characterize the anti-HAdV activity of 18 compounds that were previously selected after high-throughput screening (HTP) of a library of 1340 compounds, coming from our collaboration with the European initiative COSTACTION CM 1407

Methods: We had evaluated the anti-HAdV activity of the compounds performing in vitro assays: plaque assays to calculate the IC₅₀ value, cytotoxicity assays to calculate the CC₅₀ value, yield reduction assays and qPCR in real time to evaluate the inhibitory effect, and nucleocitoplasm assays to evaluate their mechanism of action.

Results: It has been proven that 2 compounds, BBN75 and GSAED772E-1S2R have a safe selectivity index, a great inhibitory effect and they may act in steps subsequent to the arrival of the viral genome at the nucleus of the host cell.

Conclusions: The results indicates that BBN75 and GSAED772E-1S2R are promising anti-HAdV drugs to be evaluated at in vivo assays.

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