

April 22-23, 2019
Athens, GreeceArch Clin Microbiol 2019, Volume:10
DOI: 10.4172/1989-8436-C1-018

ANTIVIRAL ACTIVITY OF CARIBBEAN SEaweEDS AGAINST HUMAN VIRUS WITH CLINICAL AND EPIDEMIOLOGICAL SIGNIFICANCE

Liena de Regla Ponce Rey¹, Del Barrio G¹, Roque A¹, Resik S¹ and Spengler I²

¹Havana University, Cuba

²Institute of Tropical Medicine "Pedro Kouri", Cuba

Marine ecosystems represent a promising source of organisms with a wide spectrum of biomedical applications. The brown seaweeds of *Sargassum* genus embrace a varied biochemical composition and synthesize metabolites with antiviral activities. Becoming then in potential candidates for searching and developing drugs against viral diseases that show drug resistance or lack of therapy. The goal of this work is to evaluate and characterize the antiviral activity of different extracts from seaweeds of the Caribbean against reference and clinical strains of some human enterovirus and respiratory virus. The qualitative determination of secondary metabolites (phytochemical identification) from the extracts was made according to Rondina and Coussio, 1969. The cytotoxicity of the extract was evaluated in Vero, RD and Hep-2 cells by MTT method and the CC50 was calculated by lineal regression analysis. Determination of antiviral activity (EC50) was made by means of cytopathic effect inhibition in cells. The extracellular virucidal activity of the extract and the reduction of viral yield were determined by viral titration through final dilution assay. The antiviral activity was characterized by an addition of time assay. The preliminary characterization of the extract showed compounds such as tannins, quinones, proanthocyanidins/catechins, triterpens, proteins and polysaccharides. The extract was non-cytotoxic at the evaluated concentrations and showed an inhibitory activity against the viruses. Besides, it showed virucidal activity and diminished the viral titer more than three log compared to the control. The extract was active on the early and late stages of viral replication. The presence of actives compounds might be related to the showed antiviral activity, supporting so the potential of these seaweeds as a source of antivirals.

lponce@fbio.uh.cu
lienaponce@gmail.com