

NATURAL PRODUCTS FROM PLANT BIODIVERSITY AS A SOURCE OF ANTIVIRAL AND PRO-RESOLVING COMPOUNDS AGAINST INFLUENZA A VIRUS

Inhalt

Influenza A virus (IAV) remains a major global health challenge due to its high genetic variability, limited therapeutic options, and the emergence of antiviral resistance. Natural products are a promising source of antiviral agents. However, their antiviral and immunomodulatory mechanisms remain poorly understood. In particular, their potential to promote the resolution of virus-induced inflammation remains largely unexplored. In this context, our group has investigated two Brazilian species, *Terminalia glabrescens* (Tg) and *Terminalia phaeocarpa* (Tp), in in vitro models of Zika virus (ZIKV) and SARS-CoV-2 infection. Their antiviral activity has been associated with distinct classes of secondary metabolites, including the terpene β -sitosterol from Tg, the ellagitannins 1-O- α -galloylpunicalagin and punicalagin, and the flavonoids quercitrin and afzelin isolated from Tp leaves. Based on these findings, we investigated whether these natural products also exhibit antiviral and pro-resolving activity against IAV. While no cytotoxicity was observed, antiviral assays demonstrated that all tested compounds significantly reduced IAV replication. Further studies are evaluating their antiviral potency and investigating their capacity to modulate virus-induced inflammatory responses as pro-resolving agents. Collectively, these findings highlight plant-derived compounds as promising antiviral agents for IAV therapy.

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