OP7. EVALUATION OF THE ANTIVIRAL POTENTIAL OF MARRUBIUM VULGARE EXTRACTS

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Marrubium vulgare L. (horehound) is a member of the Lamiaceae, represented also with Marrubii herba as an EMA monograph with traditional medicinal uses as an expectorant in patients having cough associated with a cold. In this present study, the antiviral potential of different M. vulgare extracts was compared using in vitro angiotensin converting enzyme 2 (ACE2), transmembrane serine protease (TMPRSS), and neuraminidase enzyme (NA) assays, respectively. Standardized dried extract, aqueous ethanol and other liquid extracts of the European Pharmacopoeia quality Marrubii herba were prepared using different extraction methods. ACE2, TMPRSS and NA enzyme inhibitions were performed using commercial kits at 20-50 µg/mL concentrations. Among the tested extracts, the 30% ethanol extract inhibited the ACE2 enzyme by 78%, the TMPRSS enzyme by 69%, and the NA enzyme by 75%, respectively. The comparative experimental results showed that the best inhibitory activity was observed by the 30% ethanol extract. To the best of our knowledge, this is the first report on the antiviral activity potential of different M. vulgare extracts.

As a conclusion, in line with the experimental data from this study, Marrubium aqueous ethanol extracts can be utilized against cold and flu due to its antiviral potential. More in vivo and clinical work is needed to verify the safe and efficient use of horehound preparations.

Keywords: Marrubium; extraction; antiviral; in vitro enzyme assay.

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