

Abstract

Diffractic acid isolation and its activity against respiratory syncytial virus

Anastasiia A. Diveikina^{1,3*}, Aleksandr S. Filimonov¹, Olga A. Luzina¹, Anna A. Shtro², Nariman F. Salakhutdinov¹

¹ N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry SB RAS, 9 Lavrentiev Ave., Novosibirsk 630090, Russia; alfil@nioch.nsc.ru (A.S.F.); luzina@nioch.nsc.ru (O.A.L.); anvar@nioch.nsc.ru (N.F.S.).

² Smorodintsev Research Institute of Influenza, 15/17 Prof. Popov Str., Saint Petersburg 197376, Russia; anna.shtro@influenza.spb.ru (A.A.S.).

³ Novosibirsk State University, 1 Pirogov Str., Novosibirsk 630090, Russia.

* Correspondence: a.diveikina@g.nsu.ru (A.A.D.).

Abstract: Respiratory syncytial virus infection (RSV) is currently a widespread disease worldwide, which is severe in the elderly and young children, leading to severe complications and even death. No specific etiotropic therapy currently exists. Several groups of researchers around the world are actively developing antiviral agents against MS infection, but none of them is yet suitable for widespread use in clinical practice. Diffractic acid is one of the major secondary metabolites of many lichens and belongs to the class of depsides. There are few studies devoted to its biological activity. This compound is known to have moderate antibacterial and insecticidal properties, as well as anti-ulcer and hepatoprotective activity. Our group developed an isolation technique and isolated diffractic acid from a mixture of lichens of the genus *Usnea*. Tests on the ability to inhibit RSV reproduction in vitro showed that diffractic acid has significant antiviral activity against RSV: $EC_{50} = 4.8 \mu\text{M}$, $CC_{50} = 221.9 \mu\text{M}$, $SI = 46$.

Keywords: diffractic acid; anti- RSV agents

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