Geographical Variation of the Furanocoumarin Composition of the Fruits of Icelandic Angelica archangelica

Steinthor Sigurdsson\textsuperscript{a,b,\*}, Sigridur Jonsdottir\textsuperscript{b}, and Sigmundur Gudbjarnason\textsuperscript{a,b}

\textsuperscript{a} SagaMedica, Vatnagardar 18, IS-104 Reykjavik, Iceland. E-mail: steinthor@sagamedica.is
\textsuperscript{b} Science Institute, University of Iceland, Dunhagi 3, IS-107 Reykjavik, Iceland

\* Author for correspondence and reprint requests

Z. Naturforsch. 67\textit{c}, 1–7 (2012); received April 6/November 3, 2011

Angelica archangelica fruits were collected from 64 locations around Iceland and analysed for furanocoumarins by high-performance liquid chromatography. The average furanocoumarin content was found to be 22.5 mg/g, ranging from 14.0 to 31.6 mg/g. Whereas imperatorin was the main compound in all samples, the order of other compounds was highly diverse. Considerable differences were observed between individuals from the same location and between neighbouring locations. However, strong geographical impact was observed on the composition, with isoimperatorin and bergapten being more pronounced in South Iceland, and oxypeucedanin and an unidentified compound being more pronounced in North Iceland and absent in many samples from South Iceland.

Key words: Angelica archangelica, Iceland, Imperatorin, HPLC