

Special aspects of the biosynthesis of oxylipins in the spikemoss *Selaginellaceae* family

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Abstract

Green tissues of spikemoss *Selaginella martensii* Spring possessed the complex oxylipins patterns. Major oxylipins were the products of linoleic and α -linolenic acids metabolism via the sequential action of 13-lipoxygenase and divinyl ether synthase (DES) or allene oxide synthase (AOS). AOS products were represented by 12-oxophytodienoic acid (12-oxo-PDA) isomers. Exceptionally, its predominant isomer was 12-oxo-9(13),15-PDA, which is very uncommon in flowering plants. Divinyl ethers are detected first time in non-flowering land plant. These are the first observations of fatty acid metabolism through the lipoxygenase pathway in spikemosses (Lycopodiophyta).