Inhibition and detection of 15-lipoxygenase-1

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About the author

Nikolaos Eleftheriadis was born on the 27th of October 1986 in Thessaloniki, Greece. He grew up in Thessaloniki, where he finished his secondary school in 2004. In July 2010, he graduated with BSc in Chemistry from Aristotle University of Thessaloniki in Greece. He did his BSc thesis entitled "A thorough study on the reaction of DMAD with 1-arylaminoimidazole-2-thiones" at the Organic Chemistry Laboratory under the supervision of Prof. dr. J. Stephanidou-Stephanatou. In June 2012, he graduated with MSc in Organic Chemistry from Aristotle University of Thessaloniki in Greece. He did his MSc thesis entitled "Synthesis of quinoline, benzodiazepine and benzimidazole derivatives using MCRs with possible biological activity" under the supervision of Prof. dr. C.A. Tsoleridis. He was awarded for outstanding performance of the MSc degree from Alexandrou Foundation. In December 2012, he moved to Groningen to pursue his doctoral degree in the division of Chemistry and Pharmaceutical Biology under the supervision of Prof. dr. Frank J. Dekker. His research focused on the inhibition and detection of 15-lipoxygenase, an enzyme that plays a crucial role in the biosynthesis of inflammatory signaling molecules, of which the results are described in this thesis.

Human 15-lipoxygenase-1 (h-15-LOX-1) is an important mammalian lipoxygenase and plays a crucial role in the biosynthesis of inflammatory signaling molecules, having a regulatory role in several inflammatory lung diseases such as asthma, COPD and chronic bronchitis and more recently in various CNS diseases like Alzheimer's and Parkinson's as well as stroke. Novel inhibitors and detection methods of h-15-LOX-1 are urgently required to explore the role of this enzyme further and enable drug discovery efforts. The work reported in this thesis has focused in the design of new inhibitors and activity-based probes for the enzyme h-15-LOX-1.