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Development of novel molecules to study lipoxygenase activity in its cellular context

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Propositions

Belonging to the thesis

Development of Novel Molecules to Study Lipoxygenase Activity in Its Cellular Context

By Hao Guo

1. 15-lipoxygenase-1 (15-LOX-1) is an enzyme that can metabolize arachidonic acid (AA), linoleic acid (LA) and other related polyunsaturated fatty acids (PUFAs) in a wide range of bioactive signaling products.
2. The catalytic activity by 15-LOX-1 emerges as a double-edged sword by providing metabolites with pro-inflammatory activity and metabolites with anti-inflammatory activity.
3. Medical chemists need to increase their awareness of the possibility that photoactivation can play an important role in small molecule inhibition of enzyme activity (chapter 2).
4. Multiple factors influence structure-activity relationships (SARs). Therefore, predictions and models always need experimental verification (chapter 3).
5. Activity-based labeling of cellular lipoxygenase enzyme activity is a strategy that can advance our understanding of the activity of this class of enzymes in its cellular context (chapter 4).
6. The design, synthesis and action of activity-based probes must be straightforward in order to increase the feasibility of activity-based labelling experiments in a cellular context (chapter 4).
7. Combination and collaboration are the best things in science.
8. We do need to enjoy our work and life.
9. Travelling keeps you young.