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Long-Chain Carboxychromanols and Analogs are Anti-Inflammatories

Long-chain carboxychromanols and related compounds offer a therapeutic alternative to inhibit inflammation pathways, potentially treating chronic diseases.

The immune system plays a central role in maintaining health and disease development, but excessive immune response leads to inflammation. Proinflammatory mediators play important roles in regulating inflammatory response. Cyclooxygenase-1 (COX-1), Cyclooxygenase-2 (COX-2), and 5-lipoxygenase (5-LOX) play key roles in inflammatory responses; they are believed to be important in the development of degenerative disease as well.

Purdue University researchers have identified several vitamin E metabolites that act as potent inhibitors of COX-1 and COX-2, resulting in decreased inflammation. In addition, these long-chain carboxychromanols inhibit 5-LOX. Because these compounds inhibit the inflammation response through multiple pathways, they are useful anti-inflammatory agents and should have decreased side effects. Targeting COX-1, COX-2, and 5-LOX will result in a more potent anti-inflammatory effect than current nonsteroidal anti-inflammatory drugs. These compounds have potential use as effective cancer prevention and therapeutic agents, and in other chronic diseases, e.g., cardiovascular disease.

Advantages:

-More potent anti-inflammatory effect

-Decreased side effects

-Other potential uses

Potential Applications:

-Medical/Healthcare

-Pharmaceuticals

Technology ID

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Category

Pharmaceuticals/Drug Discovery & Development

Pharmaceuticals/Biopharmaceuti

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-Cancer Treatment

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Intellectual Property:

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