

Lipoxins and resolvins in inflammatory bowel disease.

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Lipid mediators are important messengers in many physiological processes. The pro-inflammatory effect of many prostaglandins, derived from the essential arachidonic acid, are well established. However, there are also anti-inflammatory lipid mediators: lipoxins and resolvins, derived from essential omega-6 and omega-3 polyunsaturated fatty acids (n-3 and n-6 PUFA), have been shown to control and resolve inflammation in a variety of experimental models of inflammatory disorders. Recent research implicates n-6 PUFA-derived lipoxins and their stable analogues as potent anti-inflammatory compounds in models of inflammatory bowel disease. Similarly, n-3 PUFA-derived lipid mediators such as resolvin E1 were shown to protect from experimental colitis in animal models. Some of their anti-inflammatory effects are mediated by dendritic cells. In this article we discuss the emerging knowledge on the effects of lipoxins and resolvins on various inflammatory pathways and why they are promising candidates for novel therapies of human inflammatory bowel disease.