Therapeutic Platform of Bioactive Lipids

Focus on Cancer

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Role of resolvins as a bioactive lipid in the treatment of cancer

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Abstract

Inflammation plays a vital role in activating the immune response of our body and the whole process is triggered by various diseases including cancer. Various protein and lipid mediators involve in the anti-inflammatory as well as pro-inflammatory signaling pathways have been found to initiate this complex mechanism. The advancement in lipid detection methods have unfolded the significance of lipid mediators in the case of inflammation. In nature, omega-3 polyunsaturated fatty acids (ω-3 PUFA) are found in fish oil and have been broadly studied in various inflammatory diseases like cancers with improved outcomes. Resolvins are considered to be derived from the ω-3 PUFA and perform a critical role in promoting the resolving phase of acute inflammation. In addition to inflammatory disorders, resolvins have been appeared to regulate cancer progression. Intake of ω-3 PUFA has been correlated with decreased inflammation in colorectal cancer (CRC). Resolvins provide a compelling therapeutic future as they may modulate inflammation with negligible side effects compared to currently available medications used against inflammation. This chapter describes the role of resolvins in the cascade of inflammation-related explicitly to cancers.