

Editorial

Recent Advances on Bioactive Lipids

Dietary lipids are traditionally known for playing a significant role in the development of nutritional-related diseases such as obesity, hyperlipidemia, diabetes, cardiovascular disorders, hypertension or cancer. However, the current concept on lipids and health is changing in the last years towards the clear distinction of individual lipids, since a generalization cannot be stated about dietary lipids as precursors of pathologies. This is because evidences suggest that diverse lipids ingested at specific doses are involved in the prevention and improvement of the management of several diseases.

As example, especial attention has been paid to the bioactivity of individual short, medium chain and branched fatty acid as well as conjugated linoleic acid isomers that can be found in milk and dairy products, which are foodstuffs of damaged image due to the traditional consideration of milk fat as unhealthy fat. Other minor lipid compounds with biological activity, such as phospholipids (PLs) are also part of the fat globule membrane of milk fat. PLs are well recognized as important contributors to beneficial effects in human health, being involved in major cell functions such as cell growth, death, senescence, adhesion, migration or cell integrity. Therefore, the analysis of the mechanisms of how dietary PLs are involved in cell functions and their relation to the development or prevention of nutritional-related diseases is under continuous study.

On the other hand, lipids can act as bioactive compounds by an indirect way, due to its role as delivery systems of bioactive ingredients. Thus, bioactive compounds such as fatty acids, phenols or vitamins, are examples of bioactive molecules that can be bonded to traditional lipids such as triacylglycerols, PLs, fatty acids or sterols, in order to enhance the handling of bioactive substances for inclusion in foods, or improve its bioavailability and transport to different tissues.

This special issue explores some recent advances on bioactive lipids, giving emphasis on 1) the recent findings of those components of the dairy fat traditionally considered to a minor extent; 2) the physiological function, molecular action and genomic bases of dietary PLs and their

bioactivity in chronic diseases; and 3) the potential of lipids as delivery systems of bioactive ingredients for inclusion in foods.

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