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## Abstracts Book



## Health Biotechnology

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### BIOACTIVE COMPOUNDS FROM MARINE MICROALGAE — HEALTH APPLICATIONS

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Some microorganisms, namely marine microalgae and cyanobacteria, are very rich in bioactive compounds that, due to their benefits, can find applications in human health (Raposo et al., 2013). As a matter of fact, some of these microalgae produce high amounts of polyunsaturated fatty acids (PUFA), some of them being essential for humans. Some PUFA have hypolipidaemic properties, some others are even very important in the development and functioning of the nervous system and facilitate normal growth.

Another important group of compounds synthesized by marine microalgae are sterols, and phytosterols have already been approved by the Bureau of Nutritional Sciences–Health Canada (2010) because of their hypocholesterolaemic properties. Phytosterols have also some benefits on heart and coronary diseases.

Pigments, such as phycocyanin, astaxanthin and  $\beta$ -carotene, produced by *Arthrospira platensis*, *Haematococcus* and *Dunaliella salina*, respectively, have also proved to be effective as antioxidants, protecting against oxidative stress, and as therapeutic agents against atherosclerosis, coronary heart and degenerative diseases.

Some marine unicellular algae are also very rich in protein, the aminoacid profile being similar to that of soya, as it happens with *Arthrospira*. In addition, it was already demonstrated that plant protein, such as that from soybean, can have hypocholesterolaemic and hypoglyceridaemic properties.

In addition, there are many other biochemical compounds produced by marine microalgae that have also great potential in health applications, as therapeutics or nutraceuticals.

#### References

Bureau of Nutritional Sciences–Health Canada. Plant sterols and blood cholesterol lowering: summary of Health Canada's Assessment of a Health claim about plant sterols in foods and blood cholesterol lowering (2010).

Raposo, MFJ; Morais, RMSC e Morais, AMMB (2013). Health applications of biocompounds from marine microalgae. *Life Sciences*, DOI: 10.1016/j.lfs.2013.08.002.