

## Squalene: a multi-task link in the crossroads of cancer and aging

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### ABSTRACT

Since its discovery in the beginning of the XXth century, squalene has been recognized as an important link in metabolic pathways. More recently, it has been further recognized as an intermediate step in the biosynthesis of cholesterol. Its well known antioxidant capability, together with its ability to protect skin, improve the immune system, and modulate the lipid profile, confer a high potential to this natural substance, which is spread all across the body structure, though mainly in the epithelial tissues, and in particular the skin sebum. This review will focus mainly on its major properties, which are related to anticancer properties, the maintenance of the oxidation/antioxidation balance, and its antiaging capabilities. Although the substance was originally obtained from shark liver oil, it is currently possible to obtain useful amounts from vegetable sources like extra virgin olive oil, therefore avoiding the dependence on capturing the aforementioned animal species. Recognized as one of the key components of the Mediterranean dietary style, squalene is necessary to adequately manage oxygen and its derivatives in every cell of the body.

**Key words:** aging, antioxidants, cancer, cholesterol, diet, olive oil, squalene