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# Activity and Structure Elucidation of Ceramides

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## Abstract:

Ceramide, a derivative of sphingolipid breakdown products, acts as second messenger for multiple extracellular stimuli including growth factors, chemical agents, and environmental stresses. They have been shown to be critically involved in various biological processes, including differentiation, senescence, cell-cycle arrest, proliferation, and apoptosis. Ceramide molecules form distinct domains in the cell membrane, which may serve to re-organize cellular receptors and signaling molecules. Because of their promising biological activities and applications, here we focus on: biosynthesis, existence, importance, and structure elucidation, as well as representative examples concerning their structure and activity.

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