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Titolo	Stearoyl-CoA Desaturase Genes in Lipid Metabolism [[electronic resource] /] / edited by James M. Ntambi, Ph.D
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Nota di contenuto	SCD genes of fatty acid synthesis -- SCD genes in heart metabolism -- SCD genes in liver metabolism -- SCD genes in harderian and perpetual glands -- SCD genes In lipogenesis -- SCD genes lipoproteins -- SCD genes in WAT -- SCD genes in muscle -- SCD genes in the brain -- SCD genes in inflammation -- SCD genes in ER Stress -- SCD genes in skin -- SCD genes in insulin signaling -- SCD genes in thermogenesis -- SCD genes in diabetes -- SCD genes atherosclerosis -- SCD genes in Adipocyte differentiation -- SCD genes and epigenetics -- SCD genes in fatty liver disease -- SCD genes in Colitis -- SCD genes in leptin signaling.
Sommario/riassunto	James Ntambi has gathered top authors to write about the remarkable growth of research on the role of the stearoyl-CoA desaturase (SCD) genes in metabolism in different species including human. The book shows that beginning with simple cellular models of differentiation a broad and comprehensive analysis of the SCD gene family in a number

of species and biological systems has been carried out over the course of the last twenty five years. SCD is a central enzyme in lipid metabolism that synthesizes monounsaturated fatty acids (MUFA) from saturated fatty acid precursors. At first glance, SCD would be considered a housekeeping enzyme because its product oleate is a well-known MUFA that is abundant in many dietary sources and tissue lipids. A particular highlight in the chapters of the book is that MUFAs may have signaling properties that regulate metabolism. For example, a proper ratio of saturated to MUFA contributes to membrane fluidity, and oleate has also been implicated as a mediator of signal transduction, cellular differentiation and metabolic homeostasis. It is also highlighted that SCD-1 repression mediates the metabolic effects of the hormone leptin. Conditional alleles and corresponding tissue-specific knockout mouse models for many of the SCD gene isorfms have provided a wealth of information on not only tissue-specific fatty acid metabolism but also the key transcription factors that regulate SCD expression under a variety of metabolic and genetic backgrounds. The studies described indicate that control of SCD expression occurs via a series of complex signal transduction schemes making SCD one of the most highly studied lipogenic gene families to date.