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3.5 Effect of CLAs on body composition and energy metabolism in animals and men3.5.1 Body composition in animals; 3.5.2 Body composition in man; 3.5.3 Possible mechanisms underlying reported changes in body composition; 3.5.4 Efficacy of different CLA isomers in regulating body composition; 3.6 Other reported health benefits of CLAs; 3.6.1 Effects on insulin resistance and diabetes; 3.6.2 Modulation of immune functions; 3.6.3 Effects of CLAs on biomarkers of cardiovascular disease; 3.7 Reported adverse health effects of CLAs in vivo and in vitro; 3.8 Conclusions
4 Analysis of trans mono-and polyunsaturated fatty acids4.1 Introduction; 4.2 Isomeric fatty acids in the human diet; 4.3 Gas chromatography and Fourier transform infrared spectroscopy; 4.4 Direct GC analysis; 4.4.1 Analysis of monounsaturated isomers; 4.4.2 Isomers of linoleic and a-linolenic acids; 4.4.3 Resolution of eicosenoic and a-linolenic acid isomers; 4.4.4 Effect of the type of carrier gas and flow rate on cis and trans isomer resolution and fatty acid quantification; 4.4.5 Conjugated fatty acids
4.5 Silver nitrate thin-layer and high-performance liquid chromatography separation of cis and trans isomers

Sommario/riassunto

Trans fatty acids (TFAs) have been used for many years to impart desirable physical characteristics to fats and fat blends used in food manufacturing. However, clinical trials and epidemiological studies conducted over the last thirty years have shown that TFAs can increase "bad" cholesterol levels in the blood while reducing "good" cholesterol. Accordingly, they are also linked with increased risks of coronary heart disease, thrombosis and strokes. For this reason, the food industry has been obliged to find alternatives to TFAs, thus enabling it to meet the presumed consumer demand for