

Intramolecular fatty acid distribution in milk fat triglycerides of monkeys

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Abstract

Pancreatic lipase hydrolysis was used to determine the distribution of fatty acids in the milk triglycerides of four species of monkeys and of human milk. The patterns of the major fatty acids were generally similar in all species examined, but there were some differences in the relative concentrations of individual fatty acids esterified at either the 2 or 1,3 positions. Caprylic, stearic, oleic, and linoleic acids were found predominantly at the 1,3 positions; in contrast, lauric, myristic, palmitic, and palmitoleic were concentrated at the 2 position. Monkey milk fats had greater proportions of these acids at the respective positions than did bovine milk fat. Also, the monkey fats were relatively uniform both in total unsaturated fatty acids (41–48%) and in the proportion of these esterified at the 2 position (19–26%). In general, both the fatty acid composition and the specific distribution of fatty acids in the monkey milk fats more closely resembled the patterns in human milk fat than did those in ruminant milk fats.