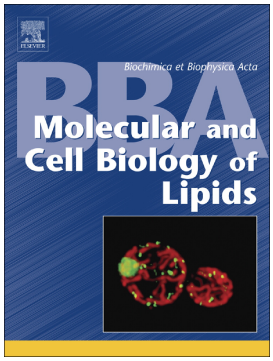

Steryl ester synthesis, storage and hydrolysis: A contribution to sterol homeostasis

Martina Korber, Isabella Klein, Günther Daum

PII: S1388-1981(17)30187-7
DOI: doi: 10.1016/j.bbalip.2017.09.002
Reference: BBAMCB 58200

To appear in:

Received date: 29 March 2017
Revised date: 25 August 2017
Accepted date: 5 September 2017

Please cite this article as: Martina Korber, Isabella Klein, Günther Daum , Steryl ester synthesis, storage and hydrolysis: A contribution to sterol homeostasis, (2017), doi: 10.1016/j.bbalip.2017.09.002

Steryl ester synthesis, storage and hydrolysis: a contribution to sterol homeostasis

Martina Korber, Isabella Klein and Günther Daum*

Institute of Biochemistry, Graz University of Technology, Graz, Austria;

***Corresponding author:**

Günther Daum, Institute of Biochemistry, Graz Universitiy of Technology, Petersgasse 12/2, A-8010 Graz, Austria; Phone: +43-316-873-6462; Fax +43-316-873-6952; E-mail: guenther.daum@tugraz.at

Keywords: steryl ester synthase, steryl ester hydrolase, lipid droplet, sterol homeostasis

Abstract

Sterols are essential lipids of all eukaryotic cells, appearing either as free sterols or steryl esters. Besides other regulatory mechanisms, esterification of sterols and hydrolysis of steryl esters serve to buffer both an excess and a lack of free sterols. In this review, the esterification process, the storage of steryl esters and their mobilization will be described. Several model organisms are discussed but the focus was set on mammals and the yeast *Saccharomyces cerevisiae*. The contribution of imbalanced cholesterol homeostasis to several human diseases, namely Wolman disease, cholesteryl ester storage disease, atherosclerosis and Alzheimer`s disease, Niemann-Pick type C and Tangier disease is described.