



Figure 2.4 Synthesis of virtually all epidermal lipids is accelerated in the stratum granulosum in comparison with the basal layer.

barrier function. Although the role of sphingolipids has not been assessed by the metabolic approach, the observation that fatty acid synthesis is also regulated by barrier requirements (40) is consistent with a role for acylated lipids, including sphingolipids, in barrier function. Recently, we assessed the importance of relatively polar SC lipid species (i.e., sphingolipids and free sterols) compared with nonpolar species (i.e., free fatty acids, sterol esters, and hydrocarbons) for barrier function (45). With use of a highly nonpolar organic solvent, petroleum ether, instead of the more bipolar solvent, acetone, we found that removal of highly nonpolar species alone produced a significant break in the barrier, but TEWL rates