ABSTRACT

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Sulfotransferases (SULTs) are enzymes that are expressed in small intestine, muscles, prostate and also in smaller amounts in placenta, trachea, lungs and skin, where they participate on sulfonation of steroid hormones, neurotransmiters as well as other endogenous molecules. SULTs are important for biotransformation processes of many xenobiotics. Cholesterol sulfotransferase (SULT2B1b) is one of the significant transferases in the skin, whose function is to catalyze transfer of sulfo group to cholesterol molecule. SULT2B1b plays an important role in skin barrier formation and also in skin aging.

Cholesterol sulphate (CHS) is a product of sulfonation of cholesterol by SULT2B1b in epidermis. CHS belongs to epidermal lipids. CHS participates on forming of skin barrier and on desquamation. The aim of study was to find an optimal method and conditions for measuring the activity of SULT2B1b. It was necessary to find a method for determination of enzyme activity in also acellular and cellular systems. Two types of reaction from available methodics were chosen, one where final product MU is detectable by fluorescent spectrophotometry and another type of reaction where phosphate is detected with malachit green in spektrophotometr.

We were not able to find good condition for fluorescent method with MU whereas the second method with malachite green was proved as conveniet for determination of SULT2B1b activity. Determination of SULT2B1b activity is crucial for future research and experiments dealing with the role of sulfotranasferase in epidermis of young and aging skin.