

ABSTRACT

Veronika Deščíková, Transport of flavonoids through the cell membranes I., graduation thesis, Charles University in Prague, Faculty of Pharmacy in Hradec Králové, thesis supervisor: Mgr. Jan Martin Ph.D., Hradec Králové, 2007, 52 pages

This work was aimed at an experimental verification of some of the transport mechanisms for flavonoid baicalin and his aglycone baicalein on suspension cultures derived from plant *Scutellaria baicalensis* (baikal scullcap). An amount of flavonoids after elicitation by glutathione, orthovanadate and kalium cyanide was determined by high-performance liquid chromatography method (HPLC). According to several recent studies an addition of glutathione should increase an amount of flavonoids. The effect on scullcap suspension cultures showed noticeable decrease of both flavonoids, mainly after 24 and 72 hours of elicitation. Biosynthesis of baicalin was intensively reduced after adding orthovanadate, showing that ABC transporters for this flavonoid are vanadate-sensitive. Elicitation with kalium cyanide didn't demonstrate any significant changes of baicalin or baicalein amount. Using of this cyanide as an elicitor is doubtful due to its unclear interaction with peroxidase system.

Keywords: flavonoids - ABC transporters - baicalin – baikal scullcap - *Scutellaria baicalensis* - elicitation - glutathione - orthovanadate – kalium cyanide