

Synthesis of selectively labelled compound, with coincidence with suitable analytical methods, result an unique information about structure, stereochemistry and mechanism of action. Labelled compounds play important role in the modern medicine as radiopharmaceuticals and they assist in study of interaction biologically active compounds in the life science and contribute to explanation of their mechanism of action a metabolic pathways. Derivatives of betulinic acid and betulin are studying for their significant cytotoxic and virostatic activity. For tests of metabolic processes and incorporation of the isotopes to the tissues culture and their detection, have been synthesise labelled compounds with significant cytotoxicity. The primary screenig already have been made in cooperation with LEM FN in Olomouc. The substrate for labelling have been selected and they have had an interesting cytotoxicity in several cancer line. Some of the of the compounds have been labelled with isotopes ^2H , ^{13}C , ^{15}N and for incorporation study by ^3H and ^{14}C .