

ABSTRACT

Affecting tissue cultures with precursors is one of methods that increases the production of secondary metabolites *in vitro*. This thesis deals with precursors affecting production of mescaline in suspension tissue cultures of *Trichocereus pachanoi*. As precursors dopamine, D, L-tyrosine, casein hydrolysate and shikimic acid were used. Three concentrations of these precursors were prepared. Suspension cultures with different concentrations of precursors were analysed by HPLC method after 48 and 168 hours. Murashige and Skoog medium was used for cultivation.

Mescaline biosynthesis was most affected by dopamine. The largest amount of mescaline was produced in suspension culture with the highest concentration of dopamine 50 mg/100 ml. The culture was cultivated for 168 hours. Suspension cultures that were cultivated for 48 hours produced the highest amount of mescaline with the highest concentration of dopamin 50 mg/100 ml.

The biosynthesis of mescaline was inhibited by other precursors (D, L-tyrosine, casein hydrolysate, shikimic acid).