STUDIES ON COEXISTENCE OF MONASCUS SECONDARY METABOLITES －RED PIGMENTS AND MONACOLIN K

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ABSTRACT

IN THIS STUDY, MONACOLIN K WAS PRODUCED BY MONASCUS RUBER CCRC 31535 IN FLASK CULTURE. IT WAS FOUND THAT THE OPTIMUM CULTURE TEMPERATURE WAS 25 OC. THE OPTIMUM MEDIA IN THE CULTURE OF 25 OC WERE FOUND TO BE PH 5.0 AND 25 ML. FURTHERMORE, RICE POWDER WAS CONSIDERED TO BE THE BEST CARBON SOURCE IN GIVING THE MAXIMUM YIELD OF MONACOLIN K. THE MAXIMUM YIELD WAS 4.16 ’ 10-2 MG/ML IN THE CULTURE OF 25 OC. THE APPROPRIATE ORGANIC NITROGEN SOURCE WAS CHANGED WITH THE CULTURE TEMPERATURE. AMONG THE NITROGEN SOURCES TESTED, YEAST EXTRACT AND PEPTONE WERE FOUND TO BE SUITABLE FOR MONACOLIN K PRODUCTION IN THE CULTURE OF 25 OC AND 30 OC, RESPECTIVELY. THIS RESEARCH DEMONSTRATED THAT THE SOLID-LIQUID CULTURE WAS WORTH IMPROVING THE YIELD OF MONACOLIN K. RESPONSE SURFACE METHODOLOGY WAS USED TO OPTIMITE MONACOLIN K PRODUCTION BY M.RUBER CCRC 31535 IN FLASK CULTURE. WHEN THE CONCENTRATION OF RICE STARCH 34.4 G/L, PEPTONE 10.8 G/L, GLYCERIN 36.4 ML/L, GLUCOSE 12.92 G/L, KNO3 8 G/L, MGSO4 4G/L, FOUND THE MAXIMUM CONCENTRATION OF MONACOLIN K WAS 0.157 MG/ML.

Keywords : MONASCUS RUBER, MONACOLIN K, RESPONSE SURFACE METHODOLOGY

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