

Pengaruh homogenisasi dan penambahan nitrogen dalam medium pertumbuhan pada teknik hidrolisis terhadap penghilangan selubung mucilage strain-strain cyanobacteria filamen bercabang = The effect of homogenization and additional of nitrogen in growth medium in hydrolysis techniques on mucilage sheath removal of branching filamentous cyanobacteria strains

Kingkin Dia Pita Loka, author

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Abstrak

ABSTRAK

Penelitian mengenai optimasi teknik hidrolisis terhadap penghilangan selubung mucilage Cyanobacteria filamen bercabang pada strain SO-130, SO-133, dan SO-198 telah dilakukan. Optimasi tersebut ialah homogenisasi dan penambahan nitrogen dalam medium pertumbuhan. Penelitian bertujuan untuk menganalisis proses hidrolisis terhadap isolat uji yang ditumbuhkan pada medium dengan dan tanpa unsur nitrogen. Selain itu bertujuan untuk menganalisis pengaruh hidrolisis terhadap konsentrasi dan kemurnian DNA hasil isolasi. Ketiga strain yang digunakan dikultur menggunakan medium cair Blue Green BG 11 dengan dan tanpa nitrogen. Perlakuan hidrolisis selubung mucilage dilakukan sebanyak lima kali ulangan dengan modifikasi homogenisasi menggunakan glass beads BioSpect 3,2 mm sebanyak lima butir. Pengamatan mikroskopis filamen dilakukan pada setiap tahapan dengan dan tanpa pengecatan negatif. Hasil penelitian menunjukkan hilangnya selubung mucilage di ketiga strain uji yang ditumbuhkan pada medium dengan dan tanpa nitrogen setelah proses hidrolisis. Kemurnian DNA pada ketiga strain di setiap perlakuan berkisar dari 0,81 mdash;1,19, yang mengindikasikan belum didapatnya DNA murni. Konsentrasi DNA pada ketiga strain berkisar dari 1,63 mdash;6,47 ng/ L dan menghasilkan pola yang sama yaitu konsentrasi DNA mengalami penurunan dari kontrol ke perlak

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ABSTRACT

ch on the optimization of hydrolysis techniques of the removal of mucilage branching filamentous Cyanobacteria on SO 130, SO 133, and SO 198 strains has been done. The optimizations are homogenizing process and adding nitrogen in growth medium. The aim of the study was to analyze the process of hydrolysis based on the comparison of isolate culture medium in medium with and without nitrogen. The other aim was to analyze the effect of hydrolysis in purity and concentration of isolated DNA. The three strains used were cultured using a Blue Green BG 11 liquid medium with and without nitrogen. The hydrolysis treatment of the mucilage sheath was performed five replications with homogenization modification with five glass beads BioSpect 3,2 mm. The results showed that microscopic observations with and without negative staining yielded the same data for all three strains, that is the mucilage sheath was disappear after hydrolysis process in the three strains that cultured in medium with and without nitrogen. The DNA purity in all treatments results were at range 0,81 mdash 1,19 in the three strains, indicating the absence of pure DNA. The DNA concentration results were at range 1,63 mdash 6,47 ng L and have the same pattern in the three strains that is decreasing from control to treatment.