

생체발광을 유지하기 위한

Carboxymethylcellulose sodium salt (CMC) 담체의 이용성연구

Studies on the Use of Carboxymethylcellulose Sodium Salt Matrix
to Maintain the Bioluminescence

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Bioluminescence of *Photobacterium phosphoreum* has been used for the detection of pollutants in the environment. Immobilization method was used to maintain the stability of bioluminescence of *P. phosphoreum*. The carboxymethylcellulose was investigated to find out whether it was suitable for the immobilization of *P. phosphoreum* as a matrix without disturbing the bioluminescence emission. A maintenance of bioluminescence was determined from the *P. phosphoreum* immobilized on the various concentrations of carboxymethylcellulose. A relatively high bioluminescence intensity was shown with immobilized cells on 1%(w/v) carboxymethylcellulose. The effect of carboxymethylcellulose concentrations on the sensitivity of Cr-compounds including Na_2CrO_4 , K_2CrO_4 , CrO_3 , $\text{CrK}(\text{SO}_4)_2$ and CrCl_3 to the bioluminescence intensity. The calculated EC_{50} showed that the linear relations between such substances and bioluminescence intensity were established.

Key Words : Bioluminescence, Immobilization, Carboxymethylcellulose matrix, EC_{50}

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