

**[BIO23]**

**Construction of integration vector for nitrogen fixing gene (*Nif*) regulation studies of *Paenibacillus macerans***

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Studies on nitrogen pathways and nitrogen fixing genes regulation have been done long time ago by various researcher. Most of the studies done on regulation of nitrogen fixing genes were on Gram negative bacteria such as *Klebsiella pneumoniae*. Very few studies are been done for the Gram positive bacteria. In order to know more on how nitrogen fixing Gram positive bacteria fixed and regulates nitrogen, we managed to construct an integration vector to studies gene regulation of Gram positive bacterium *Paenibacillus macerans* (ATCC 8244). The size of the constructed vector is 7036bp using green fluorescent protein as reporter gene and chloroamphenical gene as selection gene.