F340 *Trans*-acting regulation of ArsR and ArsD from pHM12 in *Klebsiella oxytoca*

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The arsenic resistance operon from pMH12 in *Klebsiella oxytoca* contains two regulatory genes. The first open reading frame for *ars*R extend up to 348 bp and has a translational product corresponding to a protein of 116 amino acid residue polypeptide with a molecular mass of 13 kDa. And the second ORF for *ars*D extend up to 360 bp and express a protein of 120 amino anid residue polypeptide with 13kDa. ArsR and ArsD have both metal binding domain and DNA binding helix-turn-helix. For revealing the regulation of ArsR and ArdD. We constructed promoter::*lacZ* vector which was complemented by ArsR or ArsD experiment repression of transcription by β-galactosidase assay. Sodium-m-arsenite shifts 100 fold of β-galactosidase activity. This result demonstrate that ArsR and ArsD have arsenite binding domain and DNA binding domain.

F341 Study on nickel resistance determinant of *K. oxytoca* CCUG 15788

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Klebsiella oxytoca strain CCUG 15788 is nickel resistance bacterium. This strain is resistance to 3mM $NiCl_2$. 4.2kb, KOHI4 fragment was cloned from the genomic DNA of*K.oxytoca*.Ligated into the vector pKK232-8, the fragment tolerate 3mM $NiCl_2$. in *E. coli* and nickel resistance is an inducible property. After cloning into the promoterless vectorpKK232-8 in *E. coli* JM109, the strain is resistance to chloramphenicol. When 0.8kb of 5′ region of KOHI4 is ligated into pUJ10, β-galactosidase activity is higher than the control vector pUJ10. Therefore we consider 0.8kb of 5′region of KOHI4 as promoter region. For determination of nucleotide sequence, seven subfragment is obtained. Both subfragment pMW101 (2.7kb) and pMW102(3.4kb) are resistance to 2mM $NiCl_2$. The nucleotide sequenc of the 4.2kb fragment were determined. The sequence share strong similarity with enterobacterium *Hafnia alvei* 5-5.