required for single copy gene isolation by TAR cloning is enough approximately 60 bp. And then we compare the utility of several TARget hooks, using same gene. We found the 10-times high transformation frequency using radial hooks, but there are 4 chimeric DNAs among the 9 positive clones. But when we used two unique hooks, there are no chimeric DNA in 12 positive clones. Therefore, we can used two unique hook for accurate TAR cloning.

H305 Study of Using Aqueous Genomic DNA for Optimization of TAR Cloning

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The TAR cloning method is based on co-penetration into yeast spheroplasts of target DNA along with vector(s) that contain a sequence common to human DNA, followed by homologous recombination between the vector(s) and the human DNA to establish a YAC. The speed and efficiency of TAR cloning, as compared to the more traditional methods of gene isolation, provides a powerful tool for the analysis of gene structure and function. To further improve the TAR cloning technology, we determined the optimal size of genomic DNA for easy penetration into spheroplast. We used the aqueous genomic DNA instead of agarose plug for DNA shearing. The frequency of transformation with sheared human DNA is increased at least 10 times. And then, we checked the inserted DNA size in YACs using randomly picked 30 colonies. Interestingly, 4 groups (0, 9, 18 times pipetted DNA samples and commercial DNA) showed the almost same inserted DNA sizes of ~100 kb by CHEF gel. Moreover, we examined the usefulness of aqueous DNA for the isolation of human single gene.

H401 Isolation and Characterization of the Bacteria Having Algicidal Activity Against Toxic Microcystis sp.

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In order to develop ecotechnology controlling cyanobacterial blooms in fresh waters, we isolated the cyanobacteria-lysing (killing) bacteria from the sediment of lake Seokchon and Pal'tang River-Reservoir. A soft agar-overlay technique was used to isolate the algicidal bacteria. Two strains, designated strain SB01 and SB02, showed an algicidal activity against cyanobacterium *Microcystis aeruginosa* (KCTC-AG 10073). The strains were Gram (+) rod and able to produce a brown pigment (fluorescent) when grown on the BG-11 agar medium supplemented with 0.05% yeast extract. Sequence analysis of the bacterial 16S rDNA compared with sequences in the GenBank nucleotide database. An initial test on the cyanobacteria-lysing activity of the bacteria showed that SB02 have the higher activity than the SB01. This results strongly suggest that the indigenous strains may have a potential in development of ecotechnology controlling harmful cyanobacterial blooms in fresh waters.

H801 Effect of UV-irradiation on Expression of Green Fluorescence Protein in yeast Schizosaccaromyces pombe

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yEGFP is a mutant of green fluorescent protein (GFP) that is optimized for increased fluorescence in yeast. In the

present study, the effect of UV-irradiation on the expression of yEGFP protein in yeast *S. pombe*. yEGFP gene was inserted into pREP2 vector which harbors *ura* selection marker and *nmt* promoter. After transformation into KJ1, an *ura*$^-$ strain, and selection on EMM medium, cultured cells were exposed to various doses of 254nm UV. yEGFP expression determined by FACS analysis was highest at log phase(OD=0.8~1). UV (200J/㎡) irradiation slightly decreased the yEGFP expression but the statistical significance was negligible. We, therefore, have tried to establish a system that shows a positive GFP response to UV-irradiation by GFP tagging to *rhp51*, a DNA damage-inducible gene. The results will be presented and discussed.