

Fig. 1. HGC1 gene deletion. (A) A schematic description of the gene deletion products. The entire open-reading frame of the two copies of HGC1 was sequentially replaced by those of ARG4 and HIS1 yielding gene deletion products $hgc1\Delta$::ARG4 and $hgc1\Delta$::HIS1 respectively. The first nucleotide of HGC1 coding sequence is designated as position 1. The cleavage sites for the restriction enzymes Xba I (Xb) and Apa L1 (Ap) are shown. (B) Re-integration of a copy of HGC1 into the $hgc1\Delta$ mutant ($hgc1\Delta$:: $ARG4/hgc1\Delta$::HIS1). A genomic DNA fragment containing HGC1 gene and ~ 1000 -bp 5' and 1700-bp 3' flanking regions was cloned in the plasmid CIp10. This plasmid was linearized by cleavage at the unique Xba I site within the promoter region and integrated into one of the HGC1 promoter regions (in the case shown it is the locus where HGC1 was replaced with HIS1) in the $hgc1\Delta$ mutant. (C) Southern blot verification of HGC1 deletion mutants. Strains used are: lane 1, BWP17; lane 2, $HGC1/hgc1\Delta$::ARG4; lane3, $hgc1\Delta$:: $ARG4/hgc1\Delta$::HIS1; lane 4, $hgc1\Delta$:: $ARG4/hgc1\Delta$::HIS containing a re-integrated copy of HGC1. The probe used corresponds to the region of nucleotides 3300 to 3908 as described in (A).