Functional Analysis of Fl08 Protein and Activation of FLO11 and FLO1 Expression by Fl08-Mss11 Heterodimer.
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Fl08 and Mss11 play important roles in the expression of STAl, FLO11, and FLO1 which encode an extracellular glucoamylase and two cell surface proteins. The fl08A and mss11A mutants show reduced lacZ expressions from the FLO11 and FLO1 promoters and have defects in haploid invasion and flocculation. Here we show that Fl08 has the two distinct domains, the LSH motif and the activation domain on its extreme N- and C-terminus, respectively. Furthermore, we also reveal that the N-terminal region of Fl08, LSH motif is required for interaction with Mss11. GST pull-down experiments show that they can directly form a heterodimer or a homodimer which is capable of binding to DNA. Finally, we also found that Shift, a component of the Swi5/Snf1 complex interacts functionally and physically with both Fl08 and Mss11 and is required for Fl08- and Mss11-dependent activation.

Isolation of Novel mRNA Export Factors, Rsm1 and spNle96, in Schizosaccharomyces pombe
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In eukaryotes, transport of mRNA out of the nucleus occurs through the nuclear pore complex (NPC) embedded in the nuclear envelope, and is mediated by soluble transport receptors. The best candidate for an mRNA export receptor is a heterodimer, NXX-NXT. We have used synthetic lethal genetic screen in Schizosaccharomyces pombe, in order to identify mutations in genes that are functionally linked to mea67 (yeast homolog of NXX). Three mutations that are synthetic lethal in combination with the mea67 null allele were isolated and define in separate complementation groups. These mutants exhibited the accumulation of poly(A)+ RNA in the nucleus in a restriction condition, suggesting that the mutations cause the defect of mRNA export out of the nucleus. We isolated two genes by complementation of synthetic lethal mutants. The one gene (we named it as rsm1) encodes a predicted intronless 297-amino acid ORF of which function is unknown. And the other gene encodes a homologue of S. cerevisiae nucleoporin, Nio96.

Expression and Purification of the Capsid Protein of the Japanese Encephalitis Virus and Production of Its Polyclonal Antibody
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Japanese encephalitis virus (JEV) is a member of Flaviviruses, transmitted by mosquitoes. The core of JEV is composed of the capsid (C) proteins. In order to produce the recombinant viral C protein and the antisera specific to recognize the JEV C protein in this study, we have expressed and purified the JEV C protein as a glutathione-S-transferase (GST) fusion protein in E. coli. The JEV C protein-coding region has been PCR amplified using the infectious cDNA of a JEV Korean isolate, and the amplicons were cloned into the pGEX4T-1 expression vector. GST-C fusion proteins were purified using a glutathione sepharose column. Subsequently, the GST-C fusion proteins were used for immunization with rabbits, and the antisera were obtained from these immunized animals. Western blot analysis with the JEV-infected BHK21 cell lysates showed that these antisera specifically reacted with the JEV C proteins. Thus, this study will provide a useful reagent for the diagnosis and understanding of the viral morphogenesis in the JEV-infected cells.