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| Title: | Role of a novel domain of the U4/U6.U5 tri-snRNP factor Snu66 in pre-mRNA splicing |
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| Abstract: | Eukaryotic gene expression requires the removal of non-coding introns and splicing of the coding exons, which is executed by the dynamic ribonucleoprotein (RNP) complex, spliceosome. Unlike the group II self-splicing introns, the spliceosome has evolved in such a way that it requires many trans-acting factors in addition to the cis-acting RNA elements. These factors help in the assembly, activation of the spliceosome and regulation of splicing. Snu66 is one such general splicing factor which is a part of the tri-snRNP complex. Here, we report the function of a novel domain termed SIND of Snu66 in RNA splicing. Biochemical and splicing reporter assays show that SIND is a functional domain and is also involved in splicing of introns with non-canonical 5'splice site (5'ss). Splicing assays in the intron-rich fission yeast shows that SIND mutant has a general splicing defect. Therefore, our study indicates the involvement and function of a novel domain of a splicing factor in non-canonical 5'ss utilization as well as splicing in general in intron-rich organisms. |
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