

Piece by Piece: Recent Structural Studies of the Human Spliceosome

Andrew M. MacMillan
Department of Biochemistry
University of Alberta

Splicing of precursor messenger RNAs is an essential gene regulatory process in humans that contributes to the complexity of the human proteome and is critical to both tissue differentiation and development. The cellular machinery responsible for this process — the spliceosome — is a complex assembly of five RNAs and at least 60 proteins. Our current understanding of the essential mechanisms and regulation of splicing is impeded by a lack of structural information concerning the spliceosome. This talk will focus on our recent use of synchrotron irradiation to perform high resolution structural studies of key spliceosomal components.