



Dipartimento di Biotecnologie e Bioscienze – UNIMIB

Thursday, April 11, 2024, 4:30 p.m., U4-TELLUS building, room U4-01

Unresolved questions on co-transcriptional splicing

Maria Carmo-Fonseca

Instituto de Medicina Molecular João Lobo Antunes Faculdade de Medicina da Universidade de Lisboa



Abstract: Splicing of pre-mRNAs is a fundamental process in organismal physiology and its misregulation is a hallmark of ageing and many human diseases. Investigating the principles underlying splicing control is paramount for understanding how gene expression intricately shapes human health, and paving the way for the development of innovative RNA targeted treatments. Although the molecular mechanisms of the splicing reactions have been extensively characterized, the principles governing splicing regulation remain elusive. A classical model posits that for short introns, the 5' and 3' splice sites are recognized directly by 'intron definition'. For longer introns, spliceosome assembly starts with the recognition of the downstream exon, and at a later stage a cross-intron complex is formed ('exon definition'). However, these models had not been directly tested in vivo. In our lab, we have been studying the dynamics of pre-mRNA splicing at a genome-wide scale by purifying RNA polymerase II (Pol II) complexes from the chromatin and sequencing the attached nascent RNAs. Our work in early Drosophila development...

Host: Silvia Barabino

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