

Special Issue

Nonsense-Mediated mRNA Decay: From Molecular Mechanism to Therapeutic Perspectives

Message from the Guest Editor

The most-studied quality-control mechanism is certainly that responsible for eliminating mRNAs carrying a premature stop codon, called nonsense-mediated mRNA decay (NMD). The interest in NMD also comes from the fact that its role as a cell cleaner of mRNAs carrying premature stop codons links it to the origin of approximately 10% of cases of genetic diseases. Some groups therefore seek to inhibit it, while others rather try to activate it, by means of various molecules, in order to propose new therapeutic approaches for the treatment of genetic diseases but also to study the mechanism of NMD in a particular configuration. Much remains to be learned about this mechanism for understanding the chains of reactions and interactions that lead to letting an mRNA continue its translation or, on the contrary, very quickly degrading an mRNA carrying a premature stop codon. This Special Issue aims to provide up-to-date molecular insight into the nonsense-mediated mRNA decay mechanism, its regulation and its involvement in various pathologies.

Guest Editor

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