

BDR SEMINAR via Zoom

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Monday, September 14, 2020

9:30-10:30

Meeting URL will be announced on the event day by e-mail.

※This seminar is open only to BDR members.

Nonsense-mediated mRNA decay: Quality and quantity control of gene expression in health and disease

Summary

Nonsense-mediated mRNA decay (NMD) is one of the best characterized and the most evolutionally conserved cellular mRNA quality-control mechanism in eukaryotes. In humans, while it was first recognized for targeting one-third of mutated disease-causing mRNAs, it is now known to also target ~10% of normal mammalian mRNAs. This targeting of normal mRNAs facilitates an appropriate cellular response – adaptation, differentiation, or death – to environmental changes. Genetic disruption of NMD in humans is associated with various neurodevelopmental disorders and cancers.

Despite four decades of research, the molecular mechanism and physiological roles of NMD are not fully understood. In my talk, I will present my recent work on NMD mechanism, and explain how NMD serves multiple purposes in human neuronal cells as a protector and executor of gene expression.



RIKEN Center for Biosystems Dynamics Research (BDR)

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