Special Issue

Transfer RNA Modification

Message from the Guest Editor

The primary function of tRNA modifications is to regulate precise protein synthesis by contributing to the stabilization of tRNA's L-shaped structure, prolongation of tRNA's half-life, binding of correct amino acids to tRNA, and inhibition of misreading. In particular, modified nucleosides in anticodons act to enhance, alter, or suppress codon–anticodon pairing. Modified nucleosides are also key in tRNA transport, tRNA processing, and tRNA quality control. Moreover, the effects of tRNA modification on diseases are also becoming clearer. Regarding the detection of modified nucleosides in tRNA, starting with classical TLC-based detection and mass spectrometry analysis, nanopore sequencing has finally made it possible to determine tRNA sequences containing modified nucleosides. In order to understand tRNA modifications broadly and deeply, I hope that this Special Issue brings together research from various perspectives.

Guest Editor

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Deadline for manuscript submissions

closed (15 January 2024)

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Genes

an Open Access Journal by MDPI

Impact Factor 2.8
CiteScore 5.5
Indexed in PubMed

mdpi.com/si/140418

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