

RNA

A PUBLICATION OF THE RNA SOCIETY

VOL. 29, NO. 10



OCTOBER 2023

CONTENTS

Letter to the Editor

Identification of RNA-binding proteins' direct effects on gene expression via the degradation tag system 1453

Kailey Worner, Qiuying Liu, Katharine R. Maschhoff, and Wenqian Hu

Reports

Small-molecule Ro-08-2750 interacts with many RNA-binding proteins and elicits MUSASHI2-independent phenotypes 1458^{OA}

Kathryn Walters, Marcin Piotr Sajek, Elisabeth Murphy, Aaron Issaian, Amber Baldwin, Evan Harrison, Miles Daniels, Julie A. Reisz, Kirk Hansen, Angelo D'Alessandro, and Neelanjana Mukherjee

The DUF3715 domain has a conserved role in RNA-directed transposon silencing 1471^{OA}

Theresa Schöpp, Daniil M. Prigozhin, Christopher Douse, Keisuke Kaji, Atlanta G. Cook, and Dónal O'Carroll

Articles

Processing and decay of 6S-1 and 6S-2 RNAs in *Bacillus subtilis* 1481

Jana Christin Wiegand, Katrin Damm, Marcus Lechner, Clemens Thölken, Saravuth Ngo, Harald Putzer, and Roland K. Hartmann

Interactions between terminal ribosomal RNA helices stabilize the *E. coli* large ribosomal subunit 1500^{OA}

Amos J. Nissley, Tammam S. Kamal, and Jamie H.D. Cate

Autorecoding A-to-I RNA editing sites in the *Adar* gene underwent compensatory gains and losses in major insect clades 1509

Yuangue Duan, Ling Ma, Fan Song, Li Tian, Wanzhi Cai, and Hu Li

(continued)

Cover Illustration: Self-alkylating ribozyme (PDB id: 6XJQ; Krochmal D, Shao Y, Li NS, DasGupta S, Shelke SA, Koirala D, Piccirilli JA. 2022. Structural basis for substrate binding and catalysis by a self-alkylating ribozyme. *Nat Chem Biol* **18**: 376–384). Crystal structure of a self-alkylating ribozyme that catalyzes nitrogen-carbon bond formation between a specific guanine and a 2,3-disubstituted epoxide substrate. The ribozyme assumes an elongated hairpin-like architecture preorganized to accommodate the epoxide substrate in a hook-shaped conformation. The ribozyme is displayed in NDB colors: A—red, C—yellow, G—green, U—cyan; alkyl epoxide modification of Guanine-16 is shown in magenta. The cocrystallized Fab is shown as purple and orange ribbons. Cover image provided by the Nucleic Acid Database (NDB)/Nucleic Acid Knowledgebase (NAKB; nakb.org). Image was created using Mol* (Sehna D, Bittrich S, Deshpande M, Svobodová R, Berka K, Bazgier V, Velankar S, Burley SK, Koča J, Rose AS. 2021. *Nucleic Acids Res* **49**: W431–W437).

Spatial arrangement of functional domains in OxyS stress response sRNA <i>Vesna Štih, Heinz Amenitsch, Janez Plavec, and Peter Podbevšek</i>	1520
SAFB associates with nascent RNAs and can promote gene expression in mouse embryonic stem cells <i>Rachel E. Cherney, Quinn E. Eberhard, Gilbert Giri, Christine A. Mills, Alessandro Porrello, Zhiyue Zhang, David White, Jackson B. Trotman, Laura E. Herring, Daniel Dominguez, and J. Mauro Calabrese</i>	1535
Phase-separated ribosome-nascent chain complexes in genotoxic stress response <i>Orsolya Németh-Szatmári, Bence Nagy-Mikó, Ádám Györkei, Dániel Varga, Bálint Barna H. Kovács, Nóra Igaz, Bence Bognár, Zsolt Rázga, Gábor Nagy, Nóra Zsindely, László Bodai, Balázs Papp, Miklós Erdélyi, Mónika Kiricsi, András Blastyák, Martine A. Collart, Imre M. Boros, and Zoltán Villányi</i>	1557
Localization of unlabeled bepirovirsen antisense oligonucleotide in murine tissues using in situ hybridization and CARS imaging <i>Bradley Spencer-Dene, Prabuddha Mukherjee, Aneesh Alex, Kajari Bera, Wei-Ju Tseng, Jindou Shi, Eric J. Chaney, Darold R. Spillman Jr., Marina Marjanovic, Elena Miranda, Stephen A. Boppart, and Steve R. Hood</i>	1575 ^{OA}
Multiple domains of the integral KREPA3 protein are critical for the structure and precise functions of RNA editing catalytic complexes in <i>Trypanosoma brucei</i> <i>Brittney Davidge, Suzanne M. McDermott, Jason Carnes, Isaac Lewis, Maxwell Tracy, and Kenneth D. Stuart</i>	1591 ^{OA}
Method	
In vivo structure probing of RNA in Archaea: novel insights into the ribosome structure of <i>Methanosarcina acetivorans</i> <i>Allison M. Williams, Elizabeth A. Jolley, Michel Geovanni Santiago-Martínez, Cheong Xin Chan, Robin R. Gutell, James G. Ferry, and Philip C. Bevilacqua</i>	1610
RNA: Instructions for contributors	1621

^{OA}Open Access paper