
Supplementary information

mRNA decoding in human is kinetically and structurally distinct from bacteria

In the format provided by the
authors and unedited

Supplementary Tables

Supplementary Table 1 | Estimated rate constants and mean times

Rate constant or mean time	Value
CR state lifetime (25 °C)	< 10 ms
GA state lifetime (25 °C)	620 ± 40 ms
Ternary complex association rate constant (25 °C)	70 ± 6 μM ⁻¹ s ⁻¹
mRNA decoding catalytic efficiency (25 °C)	43 ± 3 μM ⁻¹ s ⁻¹
mRNA decoding rate constant (25 °C)	1.7 ± 0.2 s ⁻¹
mRNA decoding rate constant (37 °C)	12.8 ± 2.7 s ⁻¹

Supplementary Table 2 | Nucleic acid reagent sequences.

Name	Sequence
sgRNA oligo 1	5'-CACCGTCGAACTTCGGCGGCATGG-3'
sgRNA oligo 2	5'-AAACCCATGCCGCCGAAGTTCGAC-3'
uL11 HDR template (double stranded)	5'-CGGGTTCATCCGACACCAGCCGC CTCCACCATGGGCGACAGCCTGG ACATGCTGGAGTGGAGCCTGATG CCGCCGAAGTTCGACCCCAACGA GATCAAAGTCGGTGCGTGCTCTG GTTGTGGCCGGGGCTGCGG-3'
uL11 PCR primer 1	5'-CACCTTCTCAGACTTCTCCGG-3'
uL11 PCR primer 2	5'-ACCCTCTGCCTCTTCTCGAAAC-3'
eIF5A1 gblock	5'-TAGGTGTTGGCACCATGCATCGCG CCGCGCAAATTAATACGACTCACTA TAGGGAGACCACAACGGTTTCCCT CTAGAAATAATTTTGTTTAACTTTAA GAAGGAGATATACATATGCATCATC ACCATCACCACGAAAACCTGTATTT TCAGGGCGACAGCCTGGACATGCT GGAGTGGAGCGCAGATGACTTGGA CTTCGAGACAGGAGATGCAGGGGC CTCAGCCACCTTCCCAATGCAGTG CTCAGCATTACGTAAGAATGGCTTT GTGGTGCTCAAAGGCCGGCCATGT AAGATCGTCGAGATGTCTACTTCGA AGACTGGCAAGCACGGCCACGCCA AGGTCCATCTGGTTGGTATTGACAT CTTTACTGGGAAGAAATATGAAGAT ATCTGCCCCGTCAACTCATAATATGG ATGTCCCCAACATCAAAAGGAATGA CTTCCAGCTGATTGGCATCCAGGAT GGGTACCTATCACTGCTCCAGGACA GCGGGGAGGTACGAGAGGACCTTC GTCTCCCTGAGGGAGACCTTGGCAA GGAGATTGAGCAGAAGTACGACTGT GGAGAAGAGATCCTGATCACGGTGC TGTCTGCCATGACAGAGGAGGCAGC TGTTGCAATCAAGGCCATGGCAAAT AAGTATCCGGGCCCTGTACAAGAT-3'
Pogo stick oligo 1	5'-GTAAGTTTTAGGTTGCCCCCTTTTTT TTTTTTTTTTTTTTTTTTTTTTT-3'-Biotin
Pogo stick oligo 2	5'-AAAAAAAAAAAAAAAAAAAAAAAAAA AA-3'
mRNA UUC	5'-CAACCUAAAACUUACACACCCUUA GAGGGACAACGUAUGUUCAAAGU CUUCAAGUCAUC-3'
mRNA UCU	5'-CAACCUAAAACUUACACACCCUUA GAGGGACAACGUAUGUCUAAAGU CUUCAAGUCAUC-3'